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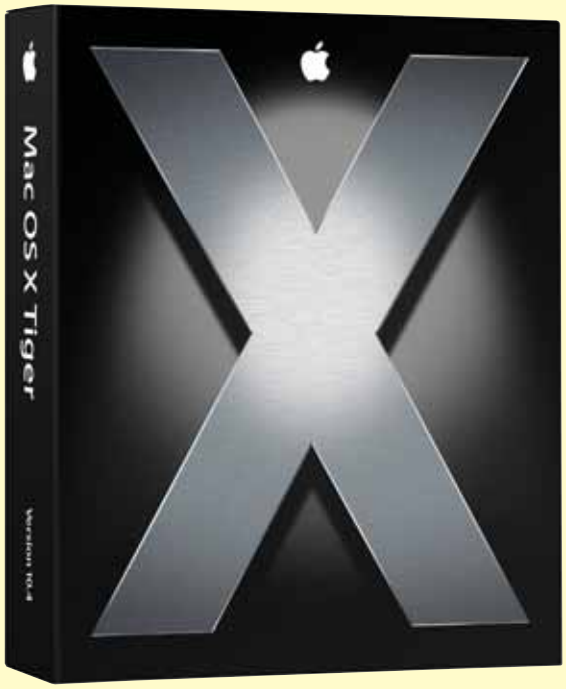
The Mac Product Experts

Power Guide:

Mac OS X Tiger



Spotlight

Glance at the outside of the Mac OS X 10.4 box and you'll see a massive metallic-gray X bathed in a bright spotlight. Could there be a clearer indication of how important Tiger's search technology, Spotlight, is to Apple? **By Christopher Breen**

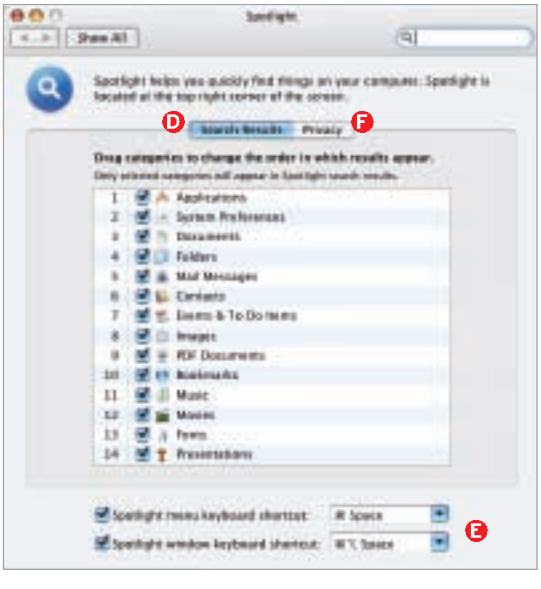
Spotlight's significance goes deeper than the touting on Tiger's packaging. It resides in the deepest levels of the operating system, where Spotlight performs feats far beyond the reach of simple Finder searches.

What sets Spotlight apart from previous search schemes is its ability to catalog and search *metadata*—information about the data contained in a file, such as the brand of camera used to take a digital photo, the bit rate of an iTunes track, or the author of an e-mail message.

The metadata index makes it possible to search for a term—*tiger*, say—and see not only documents that contain that word in their file names, but also pictures from your child's last trip to the zoo, any e-mail exchanges that discuss Apple's recently released operating system update, a new desktop pattern, and—if your musical taste runs to early eighties anthems—Survivor's now-regrettable hit from *Rocky III*.

Spotlight does its work by accessing two indexes per volume—one that contains metadata and another that indexes the contents of files. These indexes are created on-the-fly and in the background, so the search results you see are always up-to-date. Unlike the search systems offered on other platforms, Spotlight doesn't require you to update its indexes. And Spotlight is fast because it taps the smaller metadata index before accessing the much larger contents index.

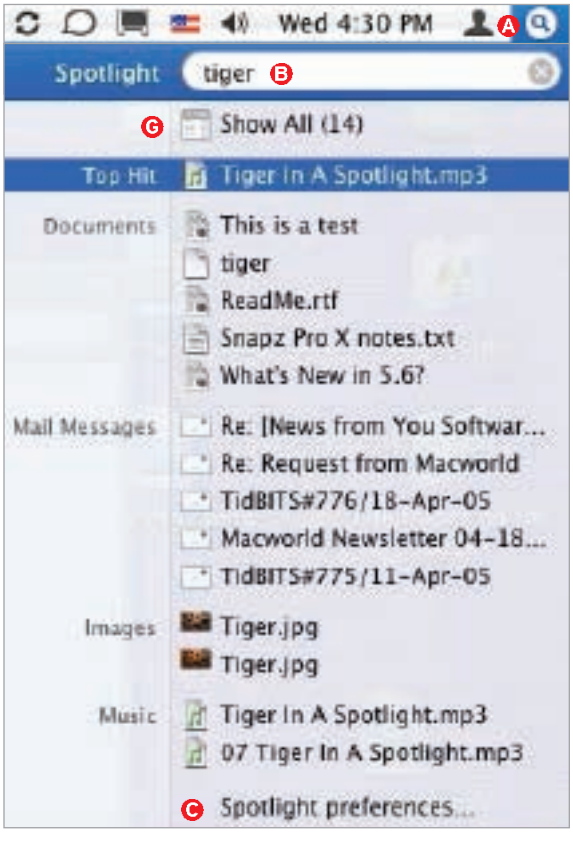
If you find that searching metadata and contents isn't enough, you're welcome to open a file's Get Info window and tag the file with a note in the Spotlight Comment field. Spotlight can search for these comments as well.



Finder Seeker

The most obvious manifestation of Spotlight's presence is the magnifying-glass icon A that appears in the upper right corner of the Mac's menu bar. Click on this icon (or press 1-spacebar), and the blue Spotlight field appears B. As you type your query in that field, results begin to show up in a window below; they narrow as you continue typing. If you see what you want in the 20 most relevant results that appear, select that result, and the document—an e-mail message or an iTunes music track, for example—will open in its associated application. To cancel a search, click on the stop button in the Spotlight field.

If you're not sure how to spell a term, type as much as you know and then press 1-period (.). Spotlight will drop down a menu listing all the words it knows that start with those letters.



Narrow the Field

If you have a hard drive packed with files, you can narrow what Spotlight searches for by calling up its preference pane (choose Spotlight Preferences C at the bottom of the Spotlight results window, or open System Preferences and select Spotlight).

In the Search Results tab D, you can specify what kinds of files you want to look for—say, documents and images, but not applications and music files. You can also specify new keyboard shortcuts for accessing the Spotlight menu and the Spotlight window E (for a list of Spot-

light's default shortcuts, see "Spotlight Keyboard Commands").

In the Privacy tab F, you can instruct Spotlight to keep out of specific locations. And speaking of butting out, Spotlight respects OS X's permissions and won't search the files in another user account on your Mac.

The Spotlight Window

If you don't find what you're looking for in the Spotlight menu, keep typing to narrow the search or click on Show All G at the top of the list to view all the results in a separate Spotlight window H. (This window will also appear if you press 1-option-spacebar.)

On the right side of the Spotlight window, you'll find the options for grouping, sorting, and filtering search results I. This is also the place to tell Spotlight where on your computer it should look (on the whole hard drive or just in your Home folder, for example). When you first run it, Spotlight groups files by Kind, sorts by Name, filters by Any Date, and searches all the files on your computer it's able to search. If you change these default options—grouping by Date, sorting by Kind, and filtering by This Week, for instance—Spotlight will use those settings the next time it runs.

However Spotlight groups your files, a reveal triangle J appears next to each heading, indicating that results lie within. To view the contents beneath that heading, click on the triangle next to it. To reveal or hide the contents under *all* the headings at once, option-click on any reveal triangle.

Within these groups you'll see the five most relevant results, followed by a blue link K that tells you how many other results remain. Click on this link and all the found items appear.

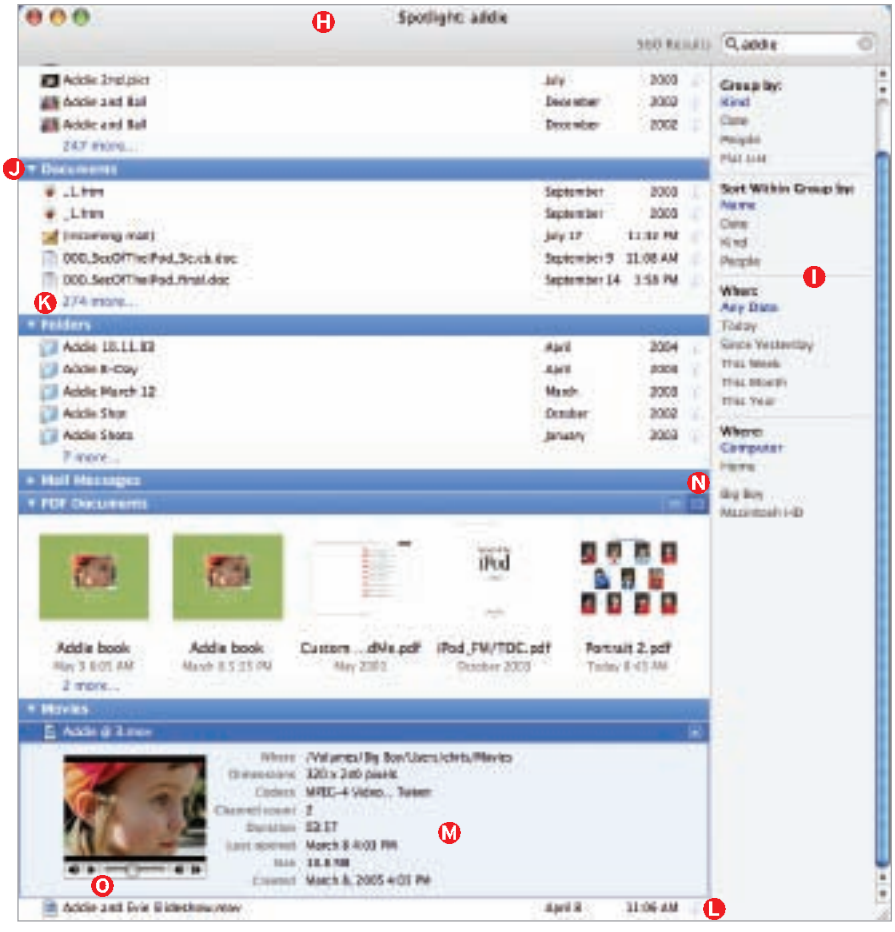
More Info

Each search result comes with an information icon, labeled with an *i* L. Click on this icon to learn the file's more intimate details. For example, clicking on the icon for a movie M reveals its location, dimensions, encoder settings, channels, duration, and size.

Information for a digital photograph might reveal the camera maker and model, focal length, exposure time, and image size.

Slide Shows and Thumbnails

Spotlight also supports multimedia in a big way. For example, when grouped by Kind, Spotlight offers additional options



for viewing images and PDF documents. Clicking on the thumbnail icon N in the Images or PDF Documents headers displays the search results as thumbnail images rather than a list. (PDFs display the first page of the document.)

Click on the play icon in the Images heading, and all the listed images will play in an iPhoto-like slide show. While you're in slide-show mode, you can use the on-screen controls to pause and restart playback, view all the images on an index sheet, view pictures as full-screen images, and add an image to your iPhoto library. To view just a portion of your pictures, select the images you want to view, control-click on one of them, and choose Slideshow from the contextual menu.

If you select a movie file in the Spotlight window and click on the small info icon, you'll see a thumbnail image of the movie with playback controls. Click on the play button O to watch the movie, complete with sound. Drag that movie to the desktop to copy the entire file there. The process works similarly for audio files.

Additionally, the Spotlight window's contextual menus allow you to add a file to an Automator workflow or direct it to Mail as an attachment.

Spotlight Keyboard Commands

> **1-spacebar** exposes the Spotlight menu.

> **1-option-spacebar** opens the Spotlight window.

> **1-click** on an item in the Spotlight menu to reveal its location in the Finder.

> **Press** 1 when the Spotlight menu is open to select the Top Hit item rather than Show All.

> **Press enter** to open the item selected in the Spotlight menu.

> **Option-click** on a heading in the results window to open or close all headings.

> **Select a search result and press 1-I** to open its Get Info window. Selecting multiple items and **pressing** 1-I opens multiple Get Info windows.

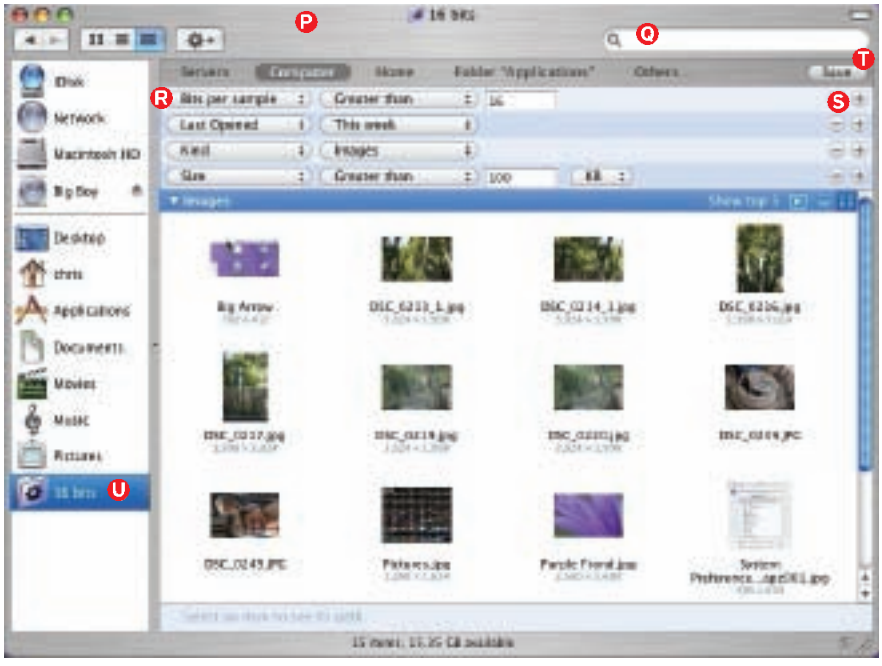
Digging Deeper

If you're just looking for files with certain words in their contents or certain creation dates, the Spotlight menu or window can help you track them down. But if you need to find files that match several *different* criteria—such as color label and shutter speed—or that fall in a range of dates or settings, you'll need something more powerful. For these times, switch to the Spotlight tools built into Tiger's Finder windows P.

Anyone who has ever used iTunes' Smart Playlist and iPhoto's Smart Album features will see a similar influence at work in the Finder. Like these programs, the Finder lets you create live-filtering mechanisms, or *smart items*, which give you quick access to related files and folders. But whereas iTunes and iPhoto can search only for songs and photos, respectively, the Finder's Smart Folder feature can include almost any type of file.

Press 1-F to open a new Find window, or simply start typing in the Spotlight field O in any open Finder window and then click on the plus sign (+) next to the Save button. A set of pull-down menus R will appear at the top of the window. By changing the options in these menus, you can perform complex searches based on more than 125 different file criteria. Click on the plus sign S at the end of the list to produce additional search menus.

You can save a search query as a smart folder by clicking on the Save button T.



Smart folders appear not only in Finder windows' sidebars U, but also in the sidebar within Tiger's Open and Save dialog boxes. (For more information on Spotlight's secrets, see "Find Anything" on page 46.)

More to Come

Spotlight is also *extensible*, meaning that it works with the help of plug-ins. Developers are welcome to create Spotlight plug-ins for their applications; over time, it should become possible to find any type of file on your Mac. Microsoft's Word, Excel, and PowerPoint documents already appear in Spotlight searches. (Because of the way Entourage stores e-mail messages, it isn't Spotlight-ready—yet.)

For a list of the latest Spotlight plug-ins—including those for programs such as Delicious Library, RealBasic, Font Agent Pro, and much more—go to macworld .com/0630.

Contributing Editor CHRISTOPHER BREEN is also the editor of Playlistmag.com.

Spotlight Is Everywhere

Spotlight is more than a convenient way to search for files from the menu bar. Its technology underlies new find and sort tricks in almost every corner of Tiger—including Mail, Address Book, and System Preferences.

Like the Finder, Address Book 4.0 has a Smart Group feature for gathering contacts that meet certain conditions—people who live within a particular zip code or belong to a specific e-mail domain, for instance. Address Book even allows you to choose a contact and invoke a Spotlight command that will show you all files pertaining to that person.

Mail 2.0 has also gained new powers. The most useful of these is smart mailboxes. Like the other smart tools, smart mailboxes are essentially saved searches. Once you define the criteria for a smart mailbox, all matching messages will appear in that mailbox.

But Spotlight really lives up to its name in Tiger's System Preferences. Enter a query in System Preferences' Spotlight field V, and any preference pane related to the query will appear in, yes, a white spotlight. For example, entering the word *access* places a strong spotlight W on Accounts and a dimmer spotlight X on QuickTime to convey that the preference most relevant to the query is Accounts. Along with this eye candy comes a list of topics related to your query that appears below the Spotlight field.

Safari 2.0

When Apple first unveiled Tiger in 2004, it seemed that the biggest changes to Safari could be summed up in three letters—*R-S-S.* But now that the new Safari is here, it's clear there's much more to the latest edition of Apple's Web browser. **By Dan Frakes**

RSS

In case you've been hiding out in the woods lately, RSS (an acronym that stands for Really Simple Syndication, Rich Site Summary, RDF Site Summary, or some other alternative, depending on whom you ask) is a way for Web sites to provide summaries of articles and other new content via a simple summary page called a *feed.* With Safari 2.0, you no longer need a dedicated RSS client—such as Ranchero Software's NetNewsWire ($25; ranchero.com/netnewswire)—to read feeds. Instead, you can read them right in Safari.

In Safari 2.0, a blue RSS icon Ⓐ now appears in the address bar whenever you browse a site with an RSS feed (Safari supports both RSS and Atom formats). Clicking on that icon displays the feed right in your Safari window Ⓑ. A simple slider control Ⓒ lets you adjust the size of article summaries on-the-fly. To read an entire entry, click on the blue Read More link Ⓓ at the end of a summary.

In RSS mode, the right side of the Safari window offers tools for searching and organizing your RSS feeds. If you're interested in a particular topic, you can type a search term into the Search field Ⓔ. Safari will narrow the current list to only those entries that include your search request. You can sort the news items by date, title, source (who published it), or time (how recent it is) Ⓕ. You can also view older items by clicking on one of the options under the Recent Articles list. The Source list shows who published the current article listing. If you have compiled stories from multiple feeds, you can toggle between the sources.

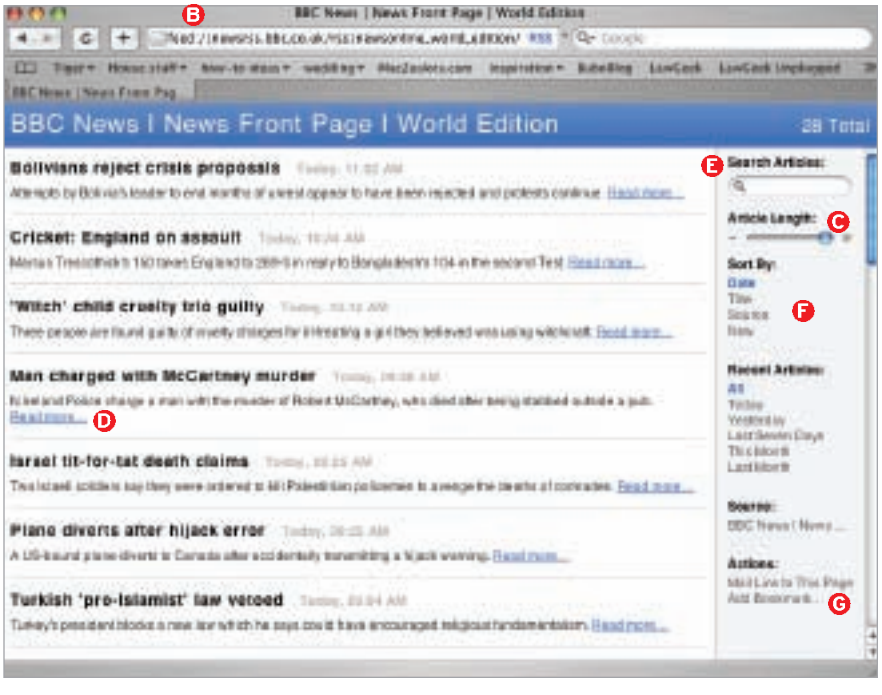
You can bookmark a feed Ⓖ just as you would any other Web site; Safari monitors these bookmarks for new content and displays the number of new articles next to each one's title. If you click on a folder of RSS feeds in the bookmark bar, you can choose the View All RSS Feeds command to produce a single window containing all the stories from the multiple sources, saving you the trouble of visiting all the feeds separately.

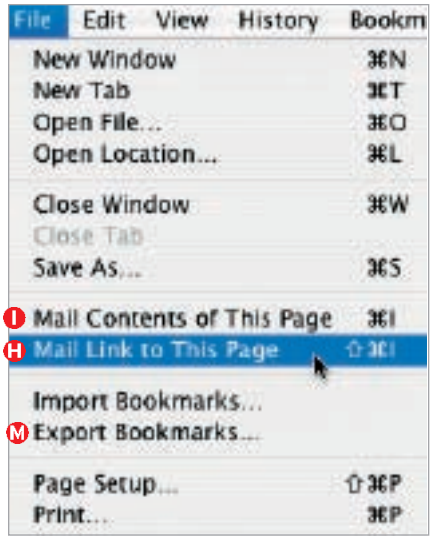
Although in many ways it makes sense to put RSS in a browser—after all, the content you're reading comes from the Web—some dedicated RSS users may find Safari's single-pane window frustratingly limited when it comes to sorting, organizing, and processing RSS content. If you're an RSS junkie like I am, it may make more sense to use a dedicated reader (such as NetNewsWire) or an e-mail client (the Mozilla e-mail program Thunderbird can handle RSS now) that lets you see your list of feeds in one pane and each feed's articles in another.

If you'd rather read feeds in your current RSS client, Safari lets you set your default RSS reader as another application. When you do, clicking on an RSS icon in Safari will display the feed in the application of your choosing.

More Than RSS

There's more to the new Safari than RSS, though. For one thing, it's faster than earlier versions. The updated rendering engine is excellent (though not perfect), displaying more pages correctly than the previous version did and complying with emerging Web standards. A handful of sites stopped working in Safari after Tiger's release, but on the whole Safari's compatibility is as good as its competitors'.





E-mail Links and Pages

Most browsers let you send a page's URL via e-mail; Safari 2.0 goes the competition one better. With one menu command, you can e-mail a friend either a link to the current page H or the contents of the entire page I (including layout and graphics) using the Tiger version of Mail J. Currently this feature works only with Mail.

Improved Searching

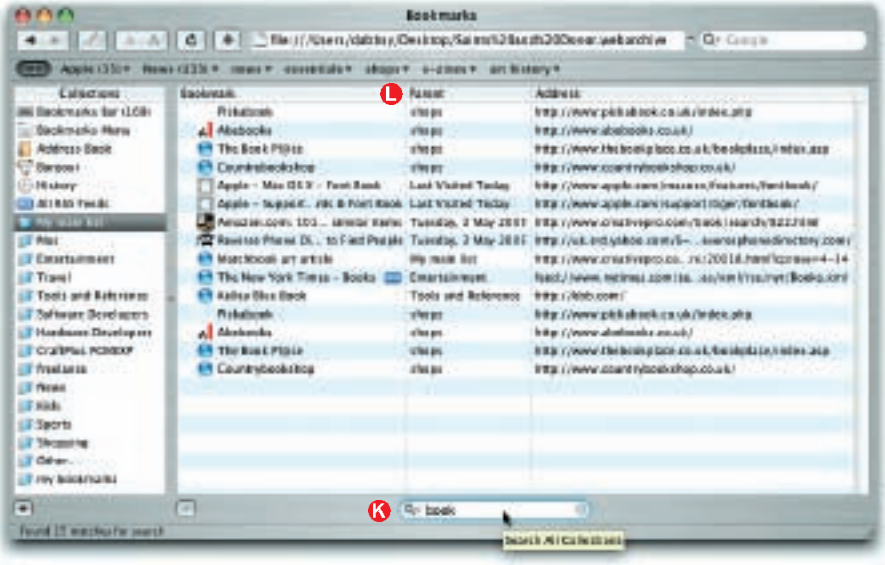
Searching has improved in Safari. While browsing your bookmarks, you can now conduct instant Spotlight searches K of your bookmarks, RSS feeds, and history. The Parent field L will even show you where the item is located.

Save Web Pages

Earlier versions of Safari could save the HTML source of the current page; Safari 2.0 can also save a Web archive that includes all graphics and other embedded files, so you can view the page later even if you're not connected to the Internet. By the way, you can now share your bookmarks with others, too. Just choose Export Bookmarks from the File menu M to produce an HTML page of hyperlinks that anyone can use on any platform.

Private Browsing Mode

A new Private Browsing mode (accessed from the Safari menu) disables your browsing history, cookies, and cache files—great when you're browsing on a public computer or you're just feeling paranoid. With Private Browsing enabled, Safari forgets which pages you've visited, what you've downloaded, and what Google searches you've performed since you activated the feature (it won't work retroactively).



Security

If Safari detects that a file you're downloading may contain an application, it warns you. Apple intends this measure as a safety feature so you don't inadvertently install viruses or other malware. Safari doesn't provide any way to turn the warnings off, however.

Parental Controls

If you have a nonadministrative OS X user account on your system, you can enable Parental Controls for that account. The user can then access only the pages in the Safari bookmarks bar. Bookmarking a new page requires an administrator password (for more on setting up limited user accounts, see "Kid-Proof Your Mac" on page 70).

Better File Control

If you click on a Web-page link that takes you to a PDF document, Safari can now display it directly, rather than having to send it to Preview or Adobe Reader. But the built-in PDF viewer doesn't support thumbnails or bookmarks; for that, you'll need the PDF plug-in included with the free Adobe Reader.

You can also now send Web images directly to iPhoto by control-clicking on it and choosing Add Image To iPhoto Library.

Senior Writer DAN FRAKES is reviews editor for Playlistmag.com and author of *Mac OS X Power Tools*, second edition (Sybex, 2004).

How **Safari Compares**

According to our latest survey, 45 percent of Macworld.com readers use Safari. The rest are using Microsoft Internet Explorer, one of the Mozilla products (Mozilla, Firefox, or Camino), or one of the myriad other alternatives—Netscape, Opera Software's eponymous browser, the Omni Group's OmniWeb, and so forth (see "Feature Matchup"). Safari 2.0 is without question a solid competitor, but do its new features make it the best browser out there? I don't think so.

The Browser War

Safari 2.0 is faster than earlier versions and now easily keeps up with most other browsers. Its form autocompletion feature is better than average. The updated rendering engine is excellent (though not perfect), displaying the vast majority of pages correctly and keeping up fairly well with emerging standards.

But flexibility continues to be one of Safari's biggest shortcomings. For example, you have to turn Safari's Block Pop-Up Windows setting either on or off; you can't selectively block pop-ups from some sites but not others (as you can in Camino or Firefox) or easily unblock a particular suppressed pop-up (as you can in Camino, Opera, or OmniWeb). Despite the advent of Private Browsing, Safari has comparatively limited cookie management. And its built-in search tool works only with Google; Firefox and OmniWeb both let you choose the search engines you want to use. Although Safari offers a terrific tabbed interface, you can't save a set of tabs without bookmarking each page individually; Firefox, OmniWeb, and Opera all save tab sets easily.

So while its new features make Safari 2.0 clearly better than version 1.0, they don't make it clearly superior to the other browsers out there.

Safari versus RSS Readers

Compared with stand-alone newsreaders, Safari 2.0's RSS support might be useful for people who are new to the feature. But it's a pale shadow of what's available in dedicated RSS applications.

On the plus side, Safari alerts you when a site you're browsing has an RSS feed—something that's all too easy to miss. By letting you display that feed with just one click, Safari demystifies RSS, making it as friendly and intuitive as any Web page. (Note that Firefox and Opera offer roughly comparable features.) This increased awareness of RSS will undoubtedly get many new users hooked on the concept, and that's a good thing.

Unfortunately, Safari's implementation of RSS is weak as newsreaders go. For example, although you can sort posts by age and mark new articles with a special color, you can't mark just one article in a feed as read without marking them all, making it hard to figure out which posts you've already seen. You have very little flexibility in the display of feeds—you can't easily adjust the font or style; you can't show the information in a table view; and you can't turn off full-text postings, images, or ads. (You can control a post's length using the Article Length slider.)

For now, Safari is good enough to get you started in the world of RSS. But you'll soon want something more.—JOE KISSELL

Joe Kissell is the author of Take Control of Upgrading to Tiger (TidBits Electronic Publishing, www.takecontrolbooks.com, 2005) and Curator of Interesting Things for InterestingThingOfTheDay.com.

Feature Matchup

Safari 2.0 adds a whole bunch of features, along with its now-famous RSS skills. But is it breaking new ground or playing catch-up? Here's how it compares with the other leading OS X browsers on the market today.—JEFFERY BATTERSBY

FEATURE	Apple Safari 2.0	Mozilla Firefox 1.0	Netscape 7.2	The Omni Group OmniWeb 5	Opera 8
E-mail Web Page or Link Send links to Web pages from within browser.	●	●	●	●	●
Export and Share Bookmarks Export and share bookmarks from within browser.	●	●	❍	❍	●
Fit Images to Screen Resize images to fit browser window.	❍	●	●	●	●
Inline Dictionary Search Dictionary lookup of words embedded in Web pages.	●	●	❍	❍	●
Inline PDF Viewing View PDF files from within browser.	●	❍	❍	❍	❍
Inline Text Search Find specific text on Web page without having to open separate Find dialog box.	❍	●	●	●	❍
Inline Web Search Run Google search for words on Web page from within that page.	●	●	●	●	●
Parental Controls Control access to Web content.	●	❍	❍	❍	❍
Pop-up Blocking Control and suppress Web pop-up ads.	●	●	●	●	●
Rich-Text Web Editing Edit text on Web pages from within browser.	●	❍	❍	❍	❍
RSS Services and Aggregation View RSS newsfeeds from within browser.	●	●	❍	❍	●
Save Images to iPhoto Save images from Web directly to iPhoto.	●	❍	❍	❍	❍
Tabbed Interface Open new Web pages in tabs instead of new browser windows.	●	●	●	●	●

● = yes, ❍ = no.

Dashboard

Dashboard has been variously described as the return of Desk Accessories, the return of HyperCard, and a rip-off of Konfabulator. But the real point of Dashboard is to make basic computing tasks easy and quick—and at that it succeeds. **By Dori Smith**

Little Apps

The concept behind Dashboard may not be entirely new, but it is straightforward: it's like an alternative Finder desktop containing mini-applications called *widgets*. These apps range from calculators, games, and weather reports to search tools and front ends for more-complex applications.

Tiger ships with 14 different widgets, including the aforementioned weather report (complete with cool animated graphics), a world clock, a stock ticker, and an iTunes controller.

The Widget Bar

If you're used to the way Exposé makes application windows appear and disappear, switching to and from the Dashboard layer should quickly become second nature to you. By default, you access Dashboard by pressing F12. However, you can change this shortcut from within the Dashboard & Exposé preference pane.

Once you've switched over to the Dashboard layer, click on the circle icon in the lower left corner Ⓐ to call up the Widget Bar Ⓑ. Here you'll see an alphabetical, graphical list of all the widgets installed on your Mac. Click on the Widget Bar's left and right arrows Ⓒ to scroll through the available widgets.

Placing Widgets

To use a widget, click on its icon in the Widget Bar and drag it anywhere you like on the Dashboard. (Placing them produces a cool ripple effect). Widgets can appear in front of or behind other widgets—or both.

Configuring Widgets

Most widgets need some sort of input from you to do their jobs. For example, the Weather widget needs to know what city you want to track. To input this information, hover the cursor over the widget. On most widgets this will produce a small info button, labeled with an *i* Ⓓ. Click on that icon and the widget will flip over. On its backside you'll find preference tools for configuring the widget—defining locations for clocks and weather, for example—as well as more information about the application. For example, when you flip over the Stickies widget, you'll find controls for changing the note's color and setting the font Ⓔ.

Clicking on some widgets will reveal additional information or options. For example, if you click on the Weather widget's graphic icon Ⓕ, a small window will drop down, revealing a forecast for the next few days Ⓖ. (By the way, you can sneak a peek at all the weather icons by 1-option-clicking on the current weather icon.) Likewise, clicking on the Calendar widget will bring up a monthly view.

Dashboard Tips

> Instead of clicking on a widget in the Widget Bar, try dragging it. You'll be able to launch and position the widget at the same time rather than doing so in two separate steps.

> To put a widget in the Finder layer, launch Terminal and type `defaults write com.apple.dashboard devmode YES`. Log out and then log back in again, and you'll be able to pull as many widgets into the Finder as you like. As you drag the widget, press F12 to leave the Dashboard layer. When you release the mouse button, the widget remains on the Finder layer.

> Ever put a new widget in your Widgets folder, but then look for it in vain on the Widget Bar? Scroll past where it should be on the Bar (widgets appear in alphabetical order), and then back again. You should now see it where it belongs.

Closing Widgets

When you want to remove a widget from Dashboard, just hold down the option key with the cursor hovering over a widget. A Close icon will appear. Click on the X and you'll close the widget.

Adding Your Own

Apple has also made it easy to add to Tiger's original 14 widgets: clicking on More Widgets takes you to www.apple.com/macosx/dashboard. There you'll be able to check out and download the latest widgets (some free and some demos).

Because widgets are, at their most basic level, composed of HTML, CSS, and JavaScript, plenty of third-party developers have been cranking them out as well.

Secure Downloads

Wherever you get your widgets, Apple has done some behind-the-scenes work to make them self-installing.

If the site from which you're downloading has done its work correctly, you should be able to simply click on a link in Safari and download the widget. When you see an alert warning you that your download is an application, click on Download and the widget will move itself into */your user folder*/Library/Widgets. The item will automatically appear in the Widget Bar the next time you open Dashboard.

When Tiger first came out, some Mac users brought to light security concerns about Safari's auto-install feature. Apple appears to have largely addressed these in OS X 10.4.1, its first Tiger update. (For more information, see "Dashboard Security" on page 56.)

If you use a browser other than Safari, or if you have turned off Safari's Open "Safe" Files After Downloading option, your widgets won't automatically install; instead, they will simply download to whichever folder you specify.

In either case, you'll need to move the downloaded widget manually into the */your user folder*/Library/Widgets folder before it will appear in the Widget Bar.

Pick Your Widgets

It's easy to get carried away downloading cool widgets to the bar; I currently have to scroll through as many as five bars to find the one I want. Because relaunching widgets is a multistep process, the easiest thing to do is to leave widgets open once you've launched them.

In times past you might have thought twice about launching an extra app or heading out on the Web to look up a bit of information. But my guess is that you'll soon be pressing the F12 key to call up Dashboard dozens of times a day.

DORI SMITH is the author of the upcoming *Dashboard Widgets for Mac OS X Tiger: Visual QuickStart Guide* (Peachpit Press, 2005).

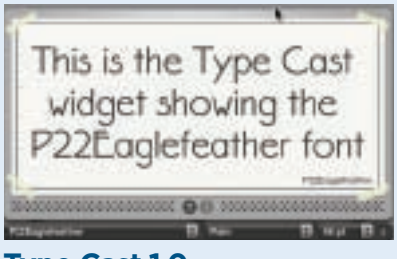
A Few of My **Favorite Widgets**

Widget Manager 1.1

This is not a widget at all, but a preference pane in which you can manage widgets. Until Apple creates something similar, it's the only straightforward way to turn widgets off and on again (unless you enjoy digging into Library directories). It also lets you see what version of each widget you're running.
downtownsoftwarehouse.com/WidgetManager/

WikityWidget 1.1

WikityWidget won Apple's first widget contest, and rightfully so. It's a great little note-taker and database for those bits of information you want to have just an F12 key away. You'll never use Stickies again after you've started keeping cross-linked notes with a Wiki.
inkspotting.com/wikity/



Type Cast 1.0

From the makers of Art Director's Toolkit comes Type Cast, a handy little utility for viewing your active fonts. You can change the font, style, point size, and/or text, and then see how it looks, all using this one widget.
code-line.com/typecast/

Air Traffic Control 1.0.1

Want to know what AirPort networks are around and which one of them has the strongest signal? Plenty of applications can do this, but none is as small and handy as Air Traffic Control. At a glance, you can see which networks are encrypted, which channel they're using, and their signal strength.
spintriplet.com/widgets/

Yahoo Local Traffic 1.1

It's time to leave work, but which route should you take home? If you've got a big-city commute, put in your zip code, and this widget by Yahoo will warn you of the major, moderate, and minor incidents that are in progress on your route.
apple.com/downloads/macosx/dashboard/yahoolocaltraffic.html

Automator

New in Tiger, Automator lets you automate repetitive tasks on your Mac without writing a single line of code. Instead, you assemble sequences of actions—self-contained little doodads that handle small, discrete tasks such as converting images, finding iTunes songs, or burning CDs. **By Adam Goldstein**

Automator lets you put a complicated—or not so complicated—task on autopilot by breaking it down into individual steps (called *actions*) and then assembling those actions into an entire process, called a *workflow*.

Workflows take care of tasks such as batch-renaming files in the Finder, building a slide show from iPhoto images, or sending customized e-mail messages to a whole group of people simultaneously.

Building Blocks

Automator's Library Ⓐ lists every program on your Mac that supports Automator control, along with a few categories (such as System and PDF) containing actions that aren't specific to any single program. When you select a category in the Library, all of the available actions for that category appear in the Action list Ⓑ. To assemble a multistep workflow, you simply drag and drop items from the Action list into the Workflow pane Ⓒ.

Once you've pieced together your workflow, you click on Run Ⓓ (or press 1-R) to make your workflow run from beginning to end. If you encounter trouble, click on Stop (or press 1-period [.]) to make your workflow stop midway through.

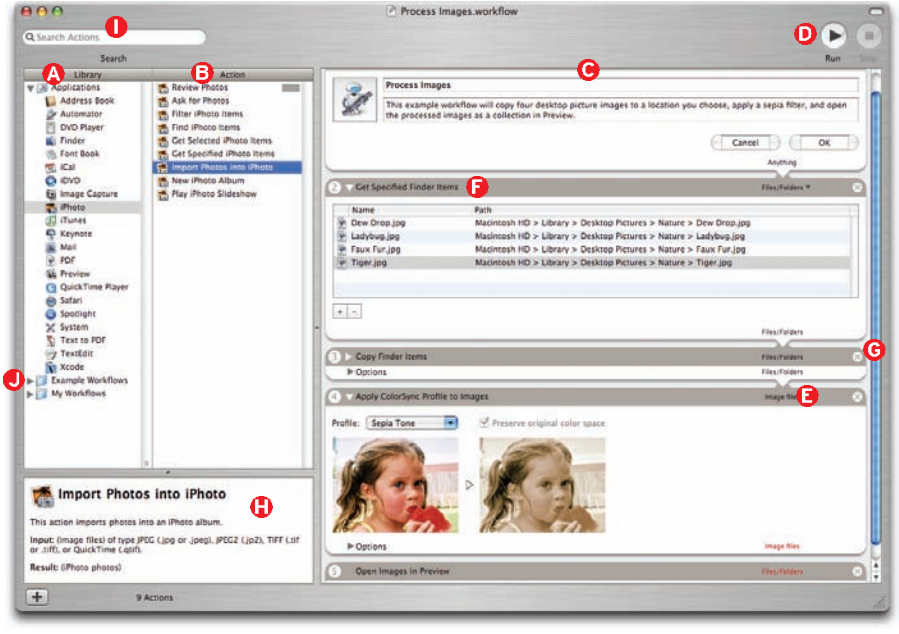
When you run a workflow, each action passes its result to the next action Ⓔ, which is then free to process the result as it sees fit (in this sample workflow, it applies a sepia tone to some image files). To move an action to a different position in your workflow, simply drag it by its title bar Ⓕ; to get rid of an action altogether, just click on the close box Ⓖ in its upper right corner.

Perhaps coolest of all, you can save your favorite workflows as plug-ins for the Finder's shortcut menus by choosing File: Save As Plug-in from Automator's menu bar.

Search Actions

If you're not sure what an action does, click on it to see additional information about the action—including what it does, what it expects to receive from the previous action, and what it passes on to the next action—in the Description pane Ⓗ.

If you know what you'd like to do but aren't sure what action to use, then turn to Automator's Spotlight field Ⓘ. Simply type a keyword for what you'd like to do or a portion of an action's name, and Automator searches the currently selected category in the Library list for matching actions. (The results of your search show up in the Action list.)



Learn by Example

To get you started, Apple has included three demonstration workflows in the Library's Example Workflows folder. To check out one of these workflows, click on the reveal triangle next to Example Workflows Ⓙ, and then double-click on the name of any workflow in the list.

You can learn a lot by exploring these workflows, such as how information passes from one action to the next through a workflow.

Unfortunately, Automator still has a few rough edges. Most notably, not every Mac program supports it, and your selection of actions is limited to what other programmers have already written. (You can download more prewritten Automator actions from Web sites such as www.automatorworld.com.) Automator isn't quite the automate-anything-you-want miracle that some advocates make it out to be—at least not yet.

Also, Automator lacks many of the workflow-control features—such as looping commands—that Unix geeks and Mac programmers expect. If you're a nonprogrammer, though, you probably won't notice the difference.

For supercomplicated jobs such as automating a newspaper layout, stick with AppleScript. But if writing scripts gives you hives, Automator could be the tool you need.

ADAM GOLDSTEIN is the author of *AppleScript: The Missing Manual* (O'Reilly, 2005) and contributed to the Tiger edition of *Mac OS X: The Missing Manual* (O'Reilly, 2005).

Five Easy **Workflows**

Think Automator sounds cool but don't know where to start? Here are five useful workflows you can try right now. (For a step-by-step guide to creating your own, see "Automate Your Routines" on page 66.)

To create these workflows, click on the library item specified at the beginning of each step (in bold) and then drag the action that follows from the Action list into the Workflow pane below any previous actions.

E-mail a Song from iTunes

This workflow lets you e-mail songs from your iTunes Library (assuming, of course, the songs are yours to send and aren't protected by any DRM). The workflow will prompt you for the recipient and subject of the e-mail, as well as for the song (or songs) you want to attach.

1. Mail: New Mail Message. In Options, select Show Action When Run; that way, the workflow will prompt you for the subject and recipient.

2. iTunes: Ask For Songs. This action lets you pick the song (or songs) you want to send. If you think you might want to send more than one, select Allow Multiple Selection.

3. Mail: Add Attachments To Front Message. This action assembles the finished Mail message for you.

Get a List of Every Font Enabled on Your Mac

This workflow takes a while to run, but when it's done you'll have a text document listing all the fonts currently enabled on your Mac.

1. Font Book: Find Font Book Items. Make sure Typefaces is selected in the Find pop-up menu; the lower menus should read Whose Enabled Is True.

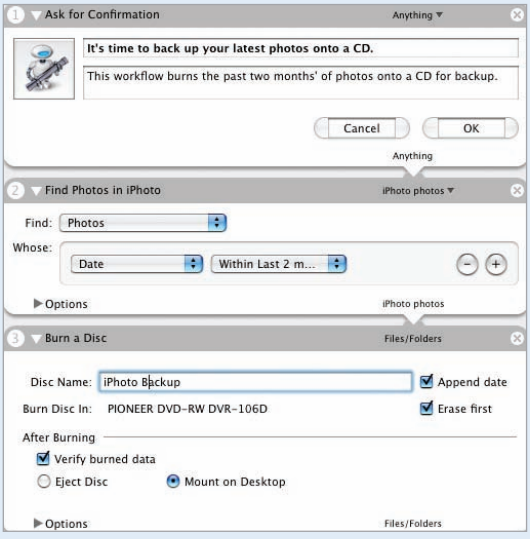
2. Font Book: Get Font Info. Leave only PostScript Name turned on; the other items will clog up your list with unnecessary information. You can also turn off the Add Labels check box.

3. TextEdit: New TextEdit Document. This action launches TextEdit (if it isn't already running), creates a new text file, and dumps your list of fonts into it.

Burn a Backup of Recent Photos ▶

This workflow burns any pictures you've taken in the past two months onto a blank CD or DVD.

1. Automator: Ask For Confirmation. In the top box, type a short description of what the workflow does; add a more elaborate description in the Explanation field. These descriptions will appear when you run your workflow.



2. iPhoto: Find iPhoto Items. In the Find pop-up menu, choose Photos. In the Whose section, choose Date from the first pop-up menu and Within Last 2 Months from the second one.

3. System: Burn A Disc. In the Disc Name field, give your disc a descriptive name such as iPhoto Backup.

Create a Photo Album from Images on a Web Site

This workflow copies images from a Web page in Safari to a new iPhoto album.

1. Safari: Get Current Webpage From Safari. This fetches the URL of the foremost browser window.

2. Safari: Get Image URLs From Webpage. From the Get URLs Of Images pop-up menu, choose Linked From These Webpages, so the workflow will download the images themselves, not dinky thumbnails. Just keep in mind that it'll download *any and all* graphics on the page.

3. Safari: Download URLs. Choose whatever folder you like from the Where pop-up menu; your Pictures folder is as good a place as any.

4. iPhoto: Import Photos Into iPhoto. In the Options section, select Show Action When Run so you get a chance to give your new iPhoto album a name while your workflow is running.

Convert and Rename Big Image Files

This one will shrink any images you select (space-hogging TIFFs, for example) by 50 percent, save them as space-conserving JPEGs, append the word *(small)* to the end of their file names, and open the newly shrunken images in Preview for inspection.

1. Finder: Ask For Finder Items. Make sure Files is selected in the Type pop-up menu. Specify the location where you want to start selecting, and select the Allow Multiple Selection check box, which presents an Open dialog box where you can select the images you want to convert and rename.

2. Finder: Copy Finder Items. From the To pop-up menu, pick a folder (your Pictures folder will work just fine), to which the workflow will copy the original images before it modifies them.

3. Finder: Rename Finder Items. From the top pop-up menu, choose Add Text. Type `(small)` in the text field, and select After Name so your workflow will add the descriptive suffix to the end of each image's file name.

4. Preview: Scale Images. Choose By Percentage from the pop-up menu and type `50`.

5. Preview: Change Type Of Images. You can select any image format you want, but JPEG is a good option if you're planning to post the images on a Web site or send them via e-mail.

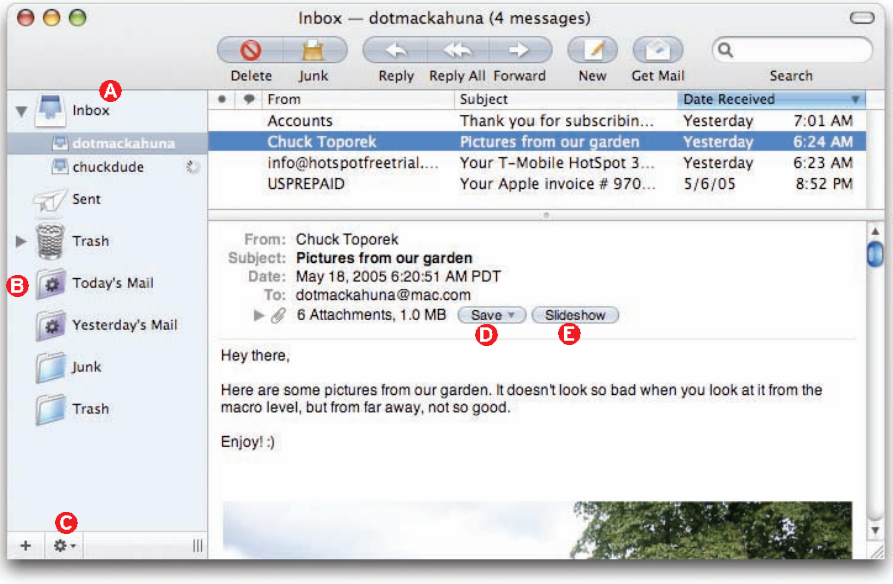
6. Preview: Open Images In Preview. This shows the result of your workflow in Preview.

Mail 2.0

With a new interface and new features such as smart mailboxes, mailbox quota reporting, and the ability to search e-mail messages quickly with Spotlight, Mail 2.0 is a big upgrade from earlier versions of the Apple e-mail client. **By Chuck Toporek and Alistair Dabbs**

The New Look

Earlier versions of Mail displayed your mailboxes in a drawer that popped out on the right or left side of the main window; you could open and close that drawer with a simple keyboard shortcut—particularly handy if you were using an iBook or a 12-inch PowerBook. Mail 2.0, however, now features an *integrated* sidebar, anchored at the left side of the interface A. This setup resembles that of other e-mail clients on the market (such as Microsoft Entourage, Qualcomm's Eudora, and Mozilla's Thunderbird), but dedicated Mail users may not like it.



Smarter E-mail

Not only can Spotlight find Mail messages when you aren't in the e-mail app, it also adds some powerful search tools to Mail. The most useful of these is smart mailboxes B. Like similar tools built into iTunes or iPhoto, smart mailboxes are saved searches. Once you define the criteria for a smart mailbox, all matching messages will appear in that mailbox. Mail isn't actually moving messages from one mailbox or folder to another; they still reside wherever you've put them. So you can have the same messages appear in multiple smart mailboxes.

For example, you can quickly and easily define smart mailboxes that keep track of all recent messages. To set up a smart mailbox that looks for messages received today, select Mailbox: New Smart Mailbox (or click on the gear icon C). After naming your new mailbox, define it with the criteria Date Received Is Today and then click on OK.

When combined with rules, a set of criteria for applying specific actions to your mail, smart mailboxes give you a much greater ability to sift and sort your messages than you had in previous versions of Mail.

New Attachment Options

If you receive a message with an attachment, you'll see a little Save button D; for image attachments, you'll also now see a Slideshow button E, which you can click on to view the attachments in a full-screen slide show. While watching the slide show, press any key to bring up the slide show toolbar, which lets you quickly pause playback, switch to thumbnail view, or import the images into iPhoto.

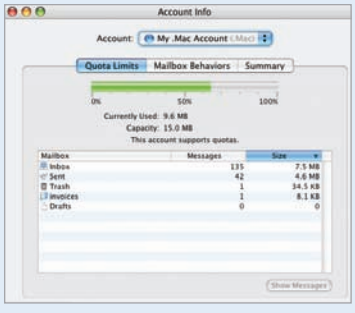
Mail Troubleshooting

If you're experiencing problems collecting e-mail, the Connection Doctor (accessed from the Window menu) quickly determines where the problem lies. It checks incoming and outgoing mail servers and network connections, and reports back with a green or red status light for each item. If it tells you that your Internet connection is at fault, click on the Assist Me Now button for additional help.

Mail 2.0 Tip

Wondering if one of your e-mail accounts is close to overflowing? Select its Inbox, click on the gear icon (beneath the sidebar to the left) to open the Action menu, and select Get Info.

The Account Info window appears, with tabs that let you view Quota Limits, Mailbox Behaviors, and a Summary of settings.



CHUCK TOPOREK is a senior editor for O'Reilly Media and the author of *Mac OS X Tiger Pocket Guide* and *Inside .Mac* (O'Reilly, 2005). ALISTAIR DABBS is a freelance journalist and the author of *Digital Designer's Bible* (Ilex, 2005).

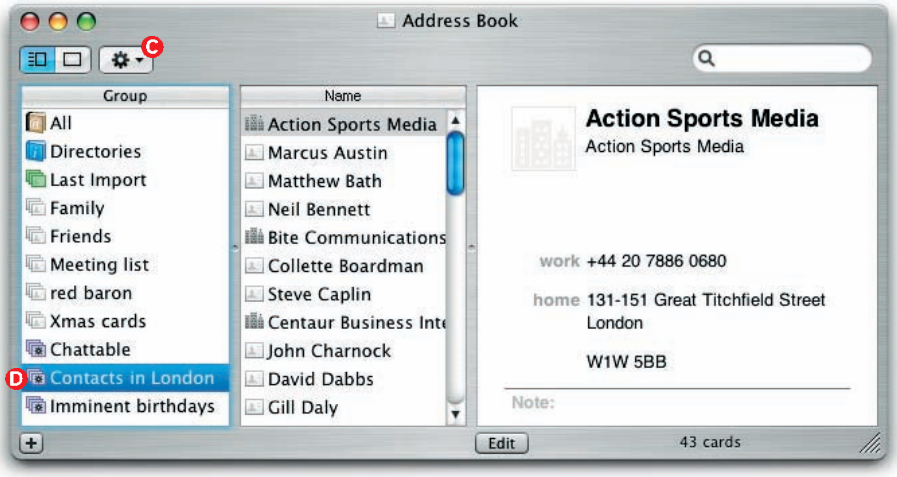
Address Book

Apple didn't give Address Book the kind of makeover other OS X apps received in Tiger. But by integrating it with other new features in the OS, the company has enhanced the program in ways that long-term Mac users will appreciate. **By Jeffery Battersby and Alistair Dabbs**

Heads-up Display

If you need to look up a contact quickly, you no longer have to open the Address Book app. You can now find contacts with Spotlight searches. Tiger also comes with a Dashboard widget Ⓐ that digs through Address Book without your having to open the application. Type what you're looking for in the widget's search field Ⓑ, and you have your contact information literally at your fingertips.

Of course, you can still find contacts the old-fashioned way, in Address Book itself. The application has a new menu option that lets you search all the information on your computer for a selected contact. All you need to do is select a contact; then, from the Action menu Ⓒ, choose the Spotlight: "*Contact Name*" item. Spotlight will find everything on your computer related to that contact.



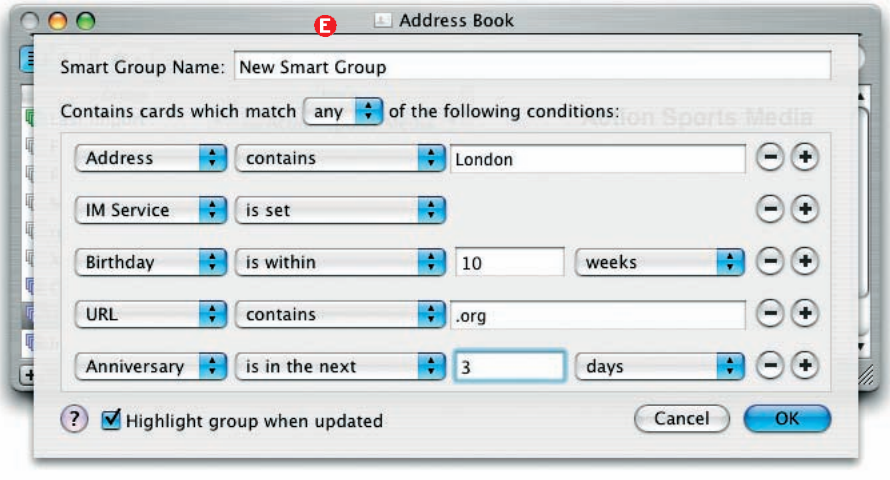
Smarter Contacts

Another useful addition is the Smart Groups feature (accessed via the Action menu). Smart groups Ⓓ work like smart playlists in iTunes and smart mailboxes in Mail.

For example, you can set up a smart group that looks for a specific e-mail domain—macworld.com, say—and every time you add a new contact who has an e-mail address in that domain, Address Book will add him or her to that smart group. You can create smart groups based on a variety of criteria, including birthdays, zip codes, area codes, company names, and instant-messaging service Ⓔ.

Automate Me

Address Book also has close-knit ties with Automator, Tiger's new scripting tool. Using Automator, you can create workflows that, for example, gather e-mail addresses for a specific set of contacts and then send out messages to that group.



Importing and Printing

Address Book employs the vCard format internally and for import and export. However, it can now import contact data from a wider range of formats, including tab- and comma-delimited text files. The Text File Import window allows you to match each data element with Address Book's headers.

Now you have four printing templates for those times when you want a hard copy of your contact details: Envelopes, Lists, Pocket Address Book, and a redesigned set of Mailing Labels. The Pocket Address Book style produces a tab-style booklet that you can carry around with you.

JEFFERY BATTERSBY is a regular *Macworld* contributor. ALISTAIR DABBS is the author of *Digital Designer's Bible* (Ilex, 2005).

iCal

Apple's calendar program now provides more-sophisticated functions for inviting other iCal users to your appointments, tracking their responses, and organizing and searching your overflowing calendars and to-do items. **By Jeffery Battersby and Alistair Dabbs**

Find It Fast

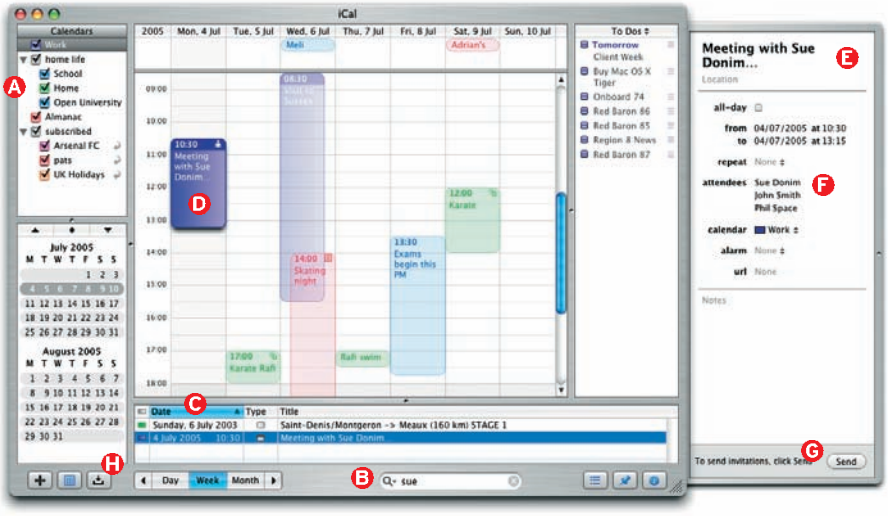
At first glance, iCal's interface appears unchanged from the previous version. But take a second look. You can now group calendars into folderlike subsets Ⓐ by going to File: New Calendar Subgroup. You can show or hide subsets with one click.

A Spotlight search field Ⓑ along the bottom edge of the window allows fast searching across iCal. Results display in a pane immediately above Ⓒ.

Meeting Manager

You can set up a meeting—and determine who should attend it—simply by dragging and dropping names from Address Book onto iCal Ⓓ. These names appear as Attendees in iCal's drawer for the event Ⓔ. Clicking on an attendee name Ⓕ produces a pop-up menu; from here you can edit or remove that person's name, send that attendee an e-mail, or locate him or her in Address Book.

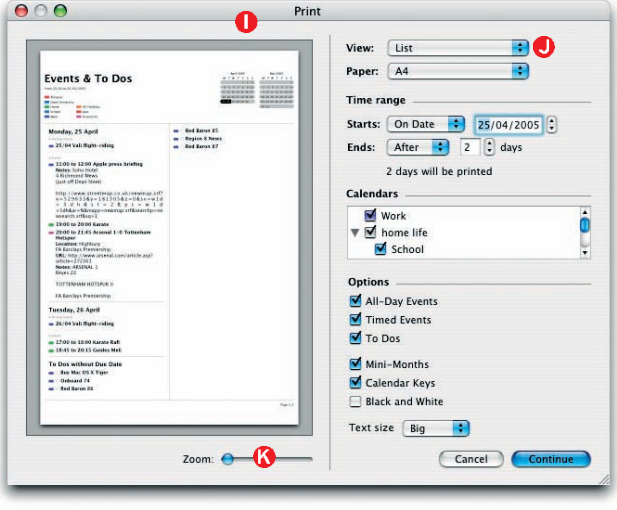
When you have at least one name in the Attendee list for a selected meeting, click on the Send button Ⓖ in the drawer to e-mail the person directly from iCal without having to go through Mail or any other intermediate e-mail package. The recipient receives an e-mail with an iCal attachment. Clicking on the attachment produces an invitation window containing acceptance instructions.



iCal Tip

Have trouble remembering birthdays? Open iCal's preferences and enable the Show Birthdays Calendar option. iCal will pull birthday information automatically from Address Book. When you click on a birthday item in iCal, the drawer shows a clickable link back to the relevant card in Address Book.

After sending out invitations to your meeting, you will begin to receive e-mailed responses from the attendees. You can track these at any time by clicking on the Notifications button Ⓗ at the bottom left corner of the iCal window.



Scheduling Workflows

iCal works as Automator's scheduling engine, making it possible to create workflows that run themselves. For example, you could create an iCal event that runs daily, searching Address Book to see if any of your contacts has a birthday that day. If Automator finds any, it could gather that person's information and create a new, personalized birthday greeting.

Printing

At last iCal prints calendars whose content you can fully control and preview within the Print window Ⓘ. You can choose between Day, Week, Month, and List templates Ⓙ. Specify a precise time period or pick one, such as Today or Next Week, from the Time Range pop-up menu. The Print window includes a big preview pane that lets you zoom in and out Ⓚ to check legibility and detail before printing your calendar.

JEFFERY BATTERSBY is a regular *Macworld* contributor. ALISTAIR DABBS is a U.K.-based writer and the author of *Digital Designer's Bible* (Ilex, 2005).

Syncing and .Mac

In Tiger, you no longer use iSync to sync data from your Mac to your .Mac account. The new version of iSync shuffles data only between your Mac and other devices, such as your cell phone, iPod, or PDA. To sync to .Mac or to another Mac, use the .Mac preference pane's new Sync tab. **By Chuck Toporek**

The Sync pane Ⓐ acts as a conduit for moving data between your Mac and your .Mac account. Once you register other Macs with the .Mac Sync Server (for this, use the Advanced tab Ⓑ), you can synchronize data among them all.

In Panther, you could synchronize Address Book, iCal, and Safari bookmarks. In Tiger, you can do far more. Now you can synchronize your Keychains; Mail accounts; and even Mail rules, signatures, and smart mailboxes. You can also set the preferences (in the Sync pane) on each of your Macs so they sync with your .Mac account at regular intervals Ⓒ, making it simple to keep multiple Macs synchronized even when you're on the road.

Of course, you'll need a .Mac membership. You'll also need Tiger; Apple doesn't appear to plan on retrofitting Panther to work with .Mac Sync.

Still, Tiger misses the Holy Grail of sync services: synchronizing system and application preferences between multiple Macs. You can't, for example, drag your Preferences folder—or anything else, for that matter—to the Sync pane. That means there's no easy way to make sure the Dock, Dashboard, Exposé, and Desktop & Screen Saver behave the same way on all your Macs. So although OS X's synchronization is better in Tiger than it was in Panther, I'll keep using Ken Boyd's free RsyncX (archive.macosxlabs.org/rsyncx) to sync preferences and files between my machines—at least for now.

CHUCK TOPOREK is a senior editor for O'Reilly Media and the author of *Inside .Mac* (O'Reilly, 2005).

Stay Ahead of Trouble with **Mac OS X Updates**

Less than three weeks after unleashing Tiger, Apple fixed many of the new OS's problems with the release of OS X 10.4.1.

The update addresses several .Mac syncing issues, including the "cannot login to the .Mac sync server" alert, which can unexpectedly appear and prevent your Mac from syncing when you click on the Sync Now button.

Another major improvement is that users are now warned when downloading images or archives that contain an application—you must click on the Continue button that pops up in Safari in order to complete the download. The fix—which prevents automated widget installation—is a response to some of the security concerns surrounding Dashboard.

The 10.4.1 update also addressed several issues with Apple's Mail, including one in which the application could unexpectedly quit, stop responding, or fail to import your previous e-mails if you had third-party software installed in the */your user folder*/Library/Mail/Bundles or root level /Library/Mail/Bundles directories. OS X 10.4.1 fixes the problem by preventing previously installed plug-ins from loading.

For complete coverage of the 10.4.1 update and beyond, go to macworld.com/tiger. You can install updates through your Software Update preference pane.—JIM DALRYMPLE

Preview

Originally conceived as a basic viewer utility for a limited number of image formats and old PDF standards, Preview 3.0 has grown into a multitalented graphics-handling package suitable for everyday use. **By Alistair Dabbs**

PDF Worktools

Preview sports two new tools for adding annotations to images and PDF documents. When you click on the Annotation menu (the pencil icon) A, a pop-up menu lets you switch between Text Annotation B and Oval Annotation C. You can re-edit, reshape, and move these annotations at any time until you save. After saving, you can no longer change the annotations, either in Preview or in Adobe Acrobat.

You can also now open simple PDF electronic forms and fill out all sections, including text fields, check boxes, and radio buttons. You can print completed forms or save them back to PDF format. However, saved PDF forms become flat documents and lose their form-filling capability, so be sure to use the File: Save As command.

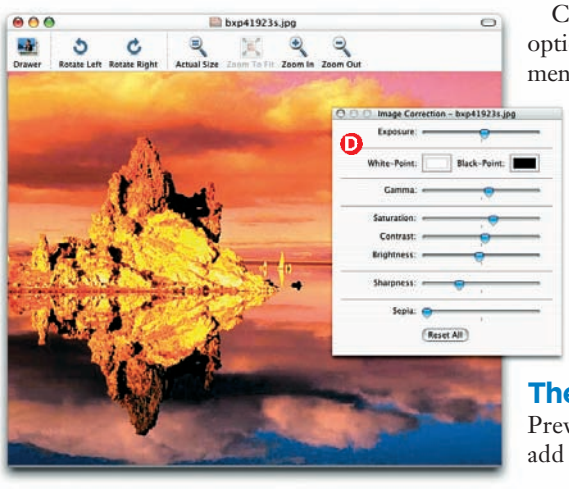
Preview also includes tools for working with long documents. You can view multipage PDFs as facing pages, just as you can in Adobe Reader.

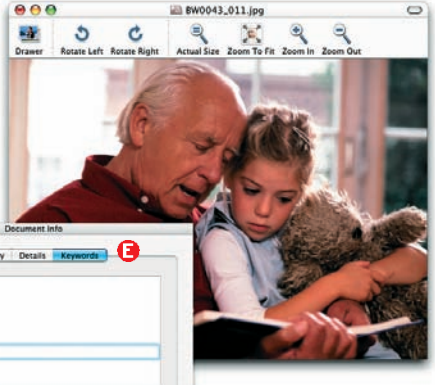
The new Bookmarks menu makes it possible to add page bookmarks to any multipage PDF. Preview doesn't embed these bookmarks into the PDF, but it does remember them from one session to the next. This means the bookmarks remain available to you, but are not accessible to anyone else who opens the file, or to Adobe Reader.

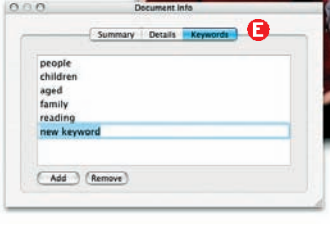
Pretty as a Picture

Preview 3.0 now supports JP2 (JPEG 2000) files and three formats currently used by professional digital photographers: RAW (Camera RAW), DNG (Digital Negative), and OpenEXR.

Choosing the Image Correction option from the Tools menu opens a new floating palette of slider controls D for adjusting an image's exposure, gamma, and colors. You can also set the white point or black point, sharpen the image, or create a sepia effect.







The Document Info window E includes a Keywords tab that lets you add keywords to any image or PDF that you have opened in Preview. These keywords are fully searchable from Spotlight.

The Inside Scoop

Preview also offers an easy way to add searchable data to your files.

ALISTAIR DABBS is a U.K.-based writer and the author of *Digital Designer's Bible* (Ilex, 2005).

iChat AV 3.0

There's no question that the biggest new feature in iChat AV 3.0 is its support for multiuser chats. You can now create a video chat with as many as three other people, or an audio chat with as many as nine others. These features really work—we've tested them out ourselves. But the reality is a bit more complicated than Apple's slick demos suggest. **By Jason Snell**

Four-Way Video

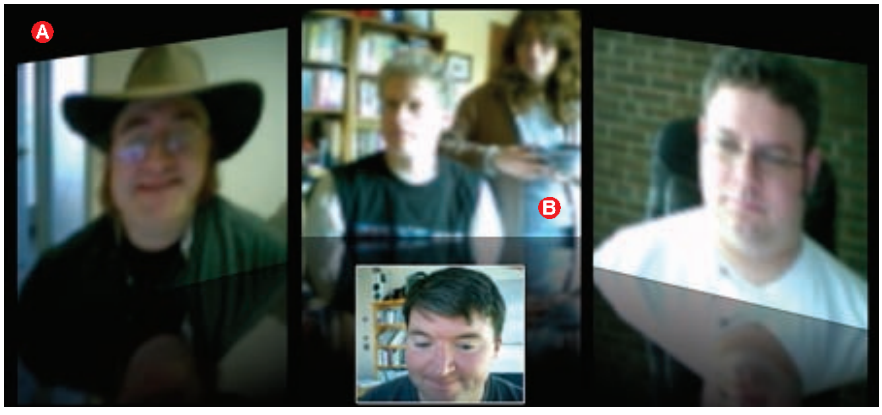
To set up a four-person chat Ⓐ with crystal-clear video, such as those Apple has been demonstrating for the past year, you'll need not only good cameras and lighting, but also four *extremely* fast Internet connections. A whole lot of data is flying across the Internet and between those four systems; even some high-speed connections just can't keep up.

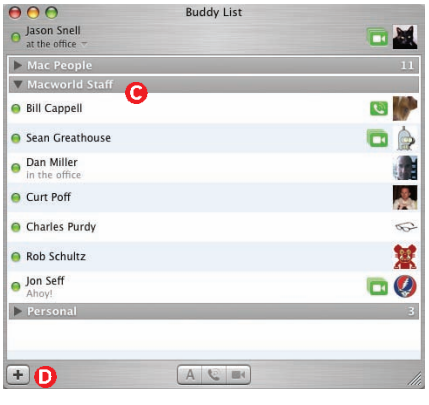
To keep chats going under less than ideal circumstances, iChat assigns highest priority to audio and the video signal's frame rate (to keep a video chat from becoming awkward at best and unfeasible at worst)—to the detriment of picture quality.

As a result, images of participants sometimes go horribly out of focus. That's just iChat's way of blurring out the ugly pixelation of the compressed video image. In my experience, three people can chat with relatively little blurring, but throw in a fourth and suddenly a couple of people go off to fuzzy-camera land Ⓑ.

One way to avoid that situation is to let whoever has the fastest Internet connection initiate the chat. We saw a noticeable difference in quality in our test chats when someone at a gigantic Silicon Valley corporation initiated them, rather than the person with home-office DSL.

Four-person videoconferencing in iChat AV 3 has some pretty strict system requirements. According to Apple, you must be on at least a dual-1GHz G4 or G5 Mac with a minimum 384-Kbps Internet connection to host a multiperson video chat; just to participate, you need a 1GHz G4, a dual-800MHz G4, or a G5, as well as a 100-Kbps connection.





Even when you're video-chatting with just one friend, image quality in iChat AV 3 seems considerably better than in previous versions. That's thanks to the new H.264 video-compression scheme used throughout Tiger (see "QuickTime 7.0 and H.264," page 36).

Security

iChat AV 3 is also more secure than its predecessors. Previously, the application supported both America Online's Instant Messenger service and local chatting via Rendezvous. Those two features remain intact (though Apple has renamed Rendezvous "Bonjour"). But there's now a third server option for iChat: Jabber, an open-source chat-service protocol.

Apple added Jabber to iChat largely because many businesses—yes, including *Macworld*—rely on iChat to get real work done. And many of the IT types at those businesses were quite concerned over the fact that confidential corporate information was traveling across the Internet via a server at AOL. IT types like Jabber, because it lets them set up a chat server of their own and dole out official corporate chat accounts; messages sent to and from those accounts can then utilize SSL encryption.

Buddy Groups

With iChat AV 3, Apple's finally done AOL-style buddy groups right. Now when you turn on groups (View: Use Groups), a collapsible gray header precedes each group of buddies Ⓒ. Clicking on the header toggles between showing and hiding the members of that group. Creating and editing groups is easy, too: click on the plus sign (+) in the Buddy List window Ⓓ to add a buddy or a group; and use the Edit Groups option to add, rename, or delete groups.

Finally, iChat includes a small but cool new tool. Many people I chat with like to customize their status message to show the music they're listening to. Prior to Tiger, that required third-party utilities. Now Apple has built this function right into iChat. Just select Current iTunes Track from the list of status-line options, and iChat will update to reflect the playing track's title and artist. Other iChat AV 3 users can click on the arrow icon at the end of a Current iTunes Track status line to open that song in the iTunes Music Store.

JASON SNELL is *Macworld*'s editorial director.

DVD Player

Included as part of OS X, Apple's DVD Player application lets you play DVD-Video discs on your Mac. With Tiger, Apple has added some cool improvements that might not be obvious if you just pop in a movie and press play. **By Jonathan Seff**

HD-Ready

The latest update to the player (version 4.6) adds support for playback of HD-DVDs created with Apple's DVD Studio Pro 4 and the new H.264 codec. Since set-top HD-DVD players are still in the developmental stage, that makes Tiger's DVD Player currently the only viable way to watch such discs.

Play It Again

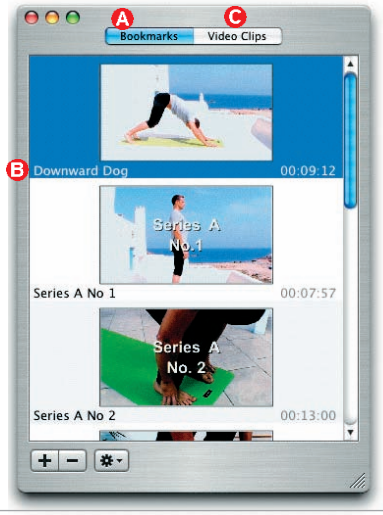
DVD Player lets you add your own bookmarks independent of the existing DVD chapters. You can add and edit these within the Bookmarks window A or while watching the movie in full-screen mode.

You can view bookmarks in thumbnail mode (seen here) or in list mode. To jump to a bookmark, just double-click on its name B in the Bookmarks window or select it from the Navigator bar. And now you can also create custom video clips C, which let you define the start and end points for playback. You can even set video clips to loop, if you'd like.

Live Resizing

DVD Player now features live window resizing, with smooth movement and continuous playing. If your Mac supports Quartz Extreme, you can even minimize a

continues



DVD window to the Dock and have it keep playing.

Better Video Control

New floating palettes (similar to the ones in other Apple apps such as Motion and iPhoto) give you greater control over your movie-watching experience. The additions include a ten-band Audio Equalizer D with presets; a Video Color controller with sliders for adjusting brightness, contrast, color, and tint; and a Video Zoom controller that's useful for reducing letterbox bars while retaining much of the video quality.

You can access the different controllers from the Window menu, or click on the title bar E of an on-screen controller to produce a list of options.

DVD Navigator

The Navigator palette F—a more elaborate version of the old Info window in the previous DVD Player—presents details (chapter, elapsed time, audio track, and so on) about the current movie, and includes the ability to change settings and pick bookmarks and video clips.

JONATHAN SEFF is *Macworld*'s senior news editor.

Quicktime 7.0 and H.264

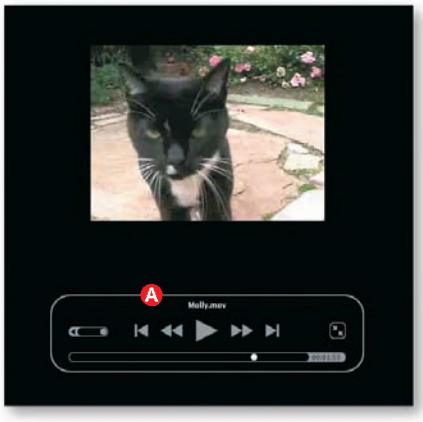
QuickTime does more than let you watch those video clips your coworkers are always sending you. Whenever you use video anywhere within OS X—say, when you launch a video chat using iChat AV, edit video clips in iMovie, or encode audio files in iTunes—you're using QuickTime. Version 7.0 makes that architecture stronger than ever. **By Jonathan Seff**

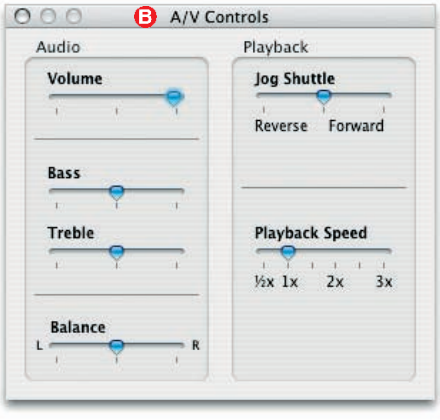
H.264

The biggest advance in QuickTime is the presence of the H.264 video codec (compressor/decompressor). Just as music files based on the AAC audio codec in iTunes sound better than MP3 files of the same size, video files based on the H.264 video codec look better than those based on other codecs. More specifically, H.264 gives you the same quality as MPEG-2 video at one-third or one-half the data rate. You'll particularly notice that advantage in the new iChat, which produces much-improved video and supports multiperson chats (see "iChat AV 3.0" on page 30).

The QuickTime Player itself also adds some nice features. Full-screen controls A let you play, pause, stop, fast-forward, or rewind, as well as adjust volume and scrub through a movie—all while remaining in full-screen mode. Previously, you had to switch out of full-screen mode to make such adjustments. Keep in mind, though, that you'll need to purchase the Pro version to access full-screen viewing.

QuickTime's new A/V Controls window B lets you determine how fast you jump back or forth through a movie's frames. A new Playback Speed slider slows down playback to half-speed or makes it move up to three times as fast.





You can now quickly capture and share movies from an iSight or other FireWire-based camera; and while the DVD Player in Panther added multichannel audio outputs, QuickTime 7.0 is the first version to offer surround sound through the QuickTime Player itself.

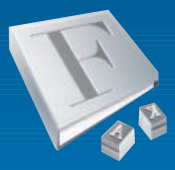
Beyond the Codec

QuickTime 7.0 also features live window resizing, which keeps playback smooth and continuous when you adjust the player's window C—it actually stretches or compresses in front of your eyes rather than jumping from one size to the other. This addition, along with many other QuickTime improvements, comes courtesy of Apple's new Core Video technology, which allows for hardware-accelerated video processing.

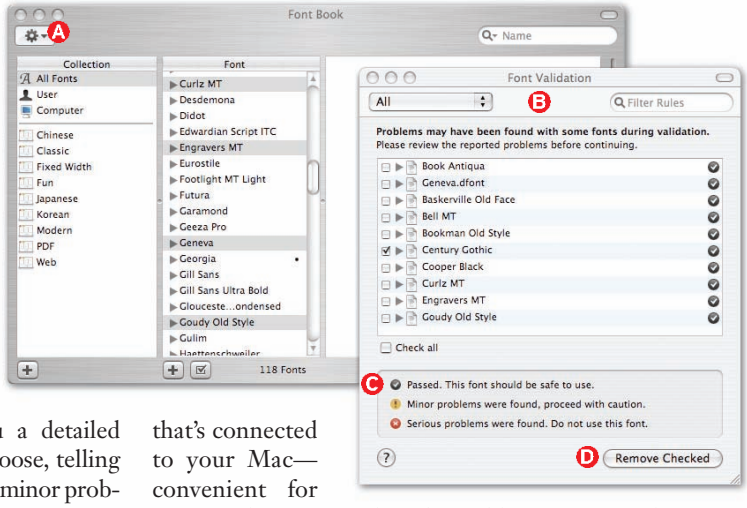
Still, it's the video in iChat and the high-quality playback that many users will appreciate most.

JONATHAN SEFF is *Macworld*'s senior news editor.

Font Book 2



Tiger's new Font Book gives you increased flexibility and control over the fonts on your Mac. While it can't compete with high-end commercial font managers, it does take advantage of features such as Spotlight and Automator to make font handling easier for the average user. **By Jackie Dove**



One of the key improvements in Font Book 2 is the way it handles validation (checking your fonts for problems). In Panther, the font utility automatically verified your fonts, but you couldn't control the operation manually.

You can validate your fonts individually by selecting a font and choosing Validate from the Action menu (the gear icon) A. The Font Validation window B gives you a detailed report about each font you choose, telling you whether it's safe to use, has minor problems but is still usable, or is too corrupt to use C. You can delete problematic fonts by clicking on Remove Checked D. Font Book has no repair function, however.

Tiger's Font Book lets you export collections of fonts to any folder or volume that's connected to your Mac—convenient for projects that require shared font libraries. You can also create multiple libraries from fonts on your hard drive or server and organize collections within them.

Font Book works seamlessly with Spotlight and Automator. In Spotlight, just type the first few letters in the name of the font you're looking for, and the search engine will display all the matches it finds. And Tiger ships with 16 Automator actions for Font Book that let you customize and automate functions such as validating fonts, adding fonts to a library, and more.

Finally, Tiger opens Font Book to AppleScript, letting you automate certain tasks via scripts. You can script any number of actions in AppleScript, or you can save an Automator workflow as an AppleScript and apply it to various fonts or to Font Book functions.

JACKIE DOVE is a senior associate editor at *Macworld*.

Under the **Hood**

By now you probably know that underneath OS X's pretty interface lies a Unix-based operating system. And Tiger has other behind-the-scenes technologies that will vastly improve your computing experience, even if you never touch them directly.

Unix

Just as Spotlight turns up in system software, it also appears in Terminal, OS X's front end to its Unix underpinnings. More specifically, you can access Spotlight using the `mdfind` command. Simply open Terminal, type `mdfind` followed by whatever text string you're looking for, and press enter. Your screen will fill with the file names that match. (For more on tapping into Spotlight from the command line, see "Find Anything" on page 46.)

You now have new ways to connect to the rest of OS X from Terminal. For example, you can use `pbcopy` to send a Unix command's output to the Clipboard. Similarly, typing `pbpaste` pastes the contents of the Clipboard into a Terminal command or file.

As in previous versions of OS X, anytime you need more information about a Unix command, type `man`, followed by the name of the command (for example, `man mdfind`), and press enter. That will call up the manual for that command. Press the spacebar to move to the next page; press Q when you're done reading and want to quit.

You may run across another new Unix technology: launch daemons. Though you may never even know you're dealing with them, developers are likely to use them, and their apps are likely to show it. Launch daemons are akin to startup and login items: they're programs that can start up when you turn on the computer or when a user logs in. But launch daemons can do a whole lot more. They can start at a specific time, watch for (and react to) changes in files on your Mac, and shut down gracefully when you power down your Mac. This means Mac developers can now write apps that react appropriately to the various changes people make on their computers—everything from switching users to shutting the system down.

Universal Access

Via its Universal Access features, Apple has long offered help to Mac users with limitations on their vision, hearing, and motor skills. These capabilities, built into the Mac OS, make it easier to manipulate the keyboard and mouse and to see what's displayed on the monitor. With Tiger, Apple seriously steps up the scope of Universal Access's powers. **By Christopher Breen**

Universal Access's marquee feature is VoiceOver Ⓐ, a scheme that will read any on-screen text, in any application, using OS X's built-in Speech voices. That includes Web pages, e-mail messages, and other documents. In addition to reading text, VoiceOver can display the current selection in a large-text window, thus providing both aural and enhanced visual feedback.

You can control VoiceOver entirely from the keyboard. Not only can you switch it on and off and control how VoiceOver reads text—by character, word, or paragraph, for example—but you can interact with on-screen elements such as menus, scroll bars, and check boxes with the keyboard, no mouse required. In addition, VoiceOver allows you to alter the pitch, speed, and volume of each voice.

Even with the ability to change the sound of Apple's included voices, some people may find listening to their mechanical pronunciation tiresome. Thankfully, Cepstral (www.cepstral.com) produces higher-quality voices, which work with any application that uses OS X's speech technology—VoiceOver included.

Because Apple built VoiceOver into Tiger, the company believes its spoken-word application has an advantage over third-party screen readers: it should work seamlessly with OS X 10.4 the moment users press 1-F5 to activate VoiceOver. Indeed, Mail, Safari, Preview, and Terminal already support VoiceOver. And it works with familiar keyboard commands such as 1-S for save and 1-C for copy.

Easier to See

VoiceOver may be the most notable addition to OS X's accessibility features, but it's not the only one. Previously, the Mouse & Trackpad tab of Universal Access could magnify the Mac's screen to make it easier to read; now it offers a slider to make the cursor larger—a feature people with impaired vision have been waiting for.

Contributing Editor CHRISTOPHER BREEN is also the editor of Playlistmag.com.

Core Technologies

Panther marked the arrival of Core Audio and Core MIDI. Those technologies introduced low-level architectural changes that audio applications, such as Logic, could exploit. Apple has pulled off the same trick in Tiger, only this time with graphics. OS X 10.4 adds Core Image and Core Data technologies.

Core Image gives developers easier access to pixel-level effects than they had in previous versions of OS X, while offering a new way to create such effects. Specifically, it lets apps take advantage of the speedy, programmable graphics processing units (GPUs) in today's ATI and Nvidia video cards. If your video card doesn't have a programmable GPU, Core Image uses your CPU more efficiently by making adjustments for Velocity Engine and dual processors.

Core Image relies on Image Units, a plug-in architecture for accessing filters, transitions, and effects. Tiger includes about 100 Image Units, including blurs, color blends, sharpeners, gradients, transitions, halftones, and distortions. Developers can tap into these filters without having to write their own; they can also create new ones that will work across applications.

While all of the Core technologies (Core Audio, Core Image, and Core Video) clearly target developers, end users ultimately benefit as well. Core Image creates a new standard for graphics plug-ins that your apps can exploit, and makes better use of the fast new graphics cards included in today's Macs.

As Tiger ships, the following cards support Core Image: the ATI Mobility Radeon 9700 and Radeon 9600 XT, 9800 XT, and X800 XT; and the Nvidia GeForce FX Go 5200, GeForce FX 5200 Ultra, and GeForce 6800 Ultra DDL and 6800 GT DDL. Look for Core Image support to appear in other cards with programmable GPUs in the future.

The other new Core technology in Tiger is Core Data. Mac OS X uses this database technology to keep track of all the information that's swimming around on your system—kind of like a down-to-the-metal FileMaker that the operating system and applications rely on to organize their data. Before Core Data, the Mac had as many different ways of storing data as it had different applications. Now that Core Data has arrived, your Mac has one way of storing everything, which makes it easier for different programs to peek at one another's data. The bottom line for you is better-behaved applications.—BRIAN JEPSON AND JONATHAN SEFF

Beyond the **Big Five**

According to Apple, Mac OS X 10.4 offers over 200 new features. True, not all of them are what you'd call revolutionary. The tally includes some fairly mundane overhauls—conforming AppleScript's Display Alert command to the Aqua interface, for instance, or adding the ability to play DVDs live using the Dock icon.

But in between those geeky tweaks and the big-ticket handful (like Spotlight and Dashboard) lies an intriguing middle ground, where some of the cleverest enhancements await. Here's a quick tour. By David Pogue

E-mail as PDF ▲

Mac OS X fans have always enjoyed the ability to save any printable document as a PDF file by choosing File: Print and clicking on Save As PDF. But in Tiger, that option in the Print dialog box has become a strange-looking pop-up button. It includes not only the familiar Save As PDF command, but also Encrypt PDF (a handy way to add a password to any document), Save PDF To Web Receipts Folder (to archive receipts for stuff you buy online), and, perhaps most useful, Mail PDF. That last command turns the document into a PDF document, opens up the Mail program, and creates an outgoing e-mail message with the PDF attached. Just address it and send it to anyone—regardless of platform—confident that your recipient will see the same layout and fonts you did.

Deep into the Dictionary

Tiger's new dictionary, which is based on *The New Oxford American Dictionary,* puts those of other operating systems to shame.

Apple's advantage, as always, is that it can integrate this dictionary into the operating system. The dictionary is available not only as a stand-alone program in your Applications folder, but also from the Services menu and the shortcut menu that appears when you control-click on a highlighted word in a Cocoa program such as Mail or Safari.

But that's only the beginning; the dictionary also has a keystroke that works in almost any program. Highlight a word in a Cocoa program and press 1-control-D. A handy definition panel appears—and if you continue to press 1-control, you can drag across the text, marveling as the panel follows along, defining every word you touch.

Your Personal Clipping Service

Just about every Mac user knows that Safari now doubles as an RSS reader (for more information, see "Safari 2.0" on page 17). The beauty of RSS, of course, is that it saves you the trouble of visiting a bunch of favorite Web sites just to see what, if anything, is new. But you need an RSS reader to get these summaries, and building one into Safari was a natural solution.

Safari goes most RSS readers one better, however. Its first big stunt: for your convenience, it can collect many Web sites' headlines onto one scrolling page. Its second stunt: it can filter the blurbs on that consolidated page so you see only the articles pertaining to something that interests you—Tiger tips, *Desperate Housewives,* or the space shuttle, say. This lets you create a personal clipping service for the entire Internet. Here's how to set up a consolidated RSS page.

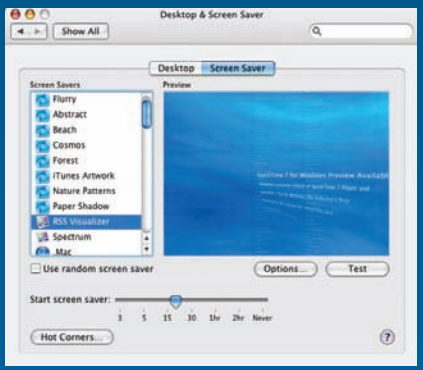
Stunt 1: Whenever you see an RSS logo in the address bar, click on it to open Safari's RSS-reading view. Bookmark this page. From now on, your Bookmarks menu (or Bookmarks bar) lets you know, in parentheses, how many new articles that Web site has published.

If you drag several of these bookmarks (on a related topic, for example) into one Safari bookmark folder, you gain a new option: a View All RSS Articles command that sprouts from that folder. Now *all* your RSS subscriptions appear on one neatly consolidated page.

Stunt 2: You can search this consolidated page for a topic that interests you, using the Search box on the right side. Safari hides all entries except those that match. Bookmark the filtered page, and you've built yourself a self-updating personal clipping service.

ILLUSTRATION BY JOE ZEFF

With one click, you make Safari draw all the topical articles from the relevant Web sites.



News Ticker by . . . Your Name Here ▲

Safari isn't the only piece of Tiger software that can display your favorite RSS news feeds. Its screen saver can, too. Leave the Mac unattended for a while and the screen fills not with starry nights or shifting photos, but with a truly spectacular, 3-D, spiraling-text display showing each RSS headline in turn. It even offers to show you the complete article in Safari (you'll see the message "Press the 1 key to read more").

To set this up, open System Preferences. Click on Desktop & Screen Saver, and then on the Screen Saver tab; in the list of screen-saver modules, click on RSS Visualizer. (If you don't see this item in the list, your Mac doesn't have the necessary graphics horsepower.)

Next, click on Options to choose which RSS feed you want to feature, and then click on Done. To see the result, either wait until your screen goes dark or, for instant gratification, click on Test. Who said screen savers were brainless pixel-wasters?

Instant Address Books

Smart folders are creeping into every area of the Mac experience; they're in iTunes, iPhoto, and now the Finder.

But they have an especially interesting use in Address Book. With just a couple of clicks, you can create a folder—a smart group—that lists everyone who has a birthday coming up, or everyone on your kids' Little League team, or everyone in a city you're about to visit (so that you can print out a handy pocket phone book, thanks to Address Book's new printing formats).

To create a smart group, choose File: New Smart Group (1-shift-N), or option-click on the plus sign (+) in the lower left corner of the Address Book window.

In the resulting sheet, name the smart group. Use the pop-up menus to set up the continuous-search criteria. In the Little League example, you'd set up the pop-up menus to say Card Contains Little League. For a city directory, you'd use City Is Chicago (or whatever urban location you want). The Highlight Group When Updated check box ensures that you'll see whenever one of your groups has changed.

When you click on OK, the smart group will appear in the list at left. Select it and you'll see that it has magically rounded up all the people in your Address Book who match your query. (To edit the settings, highlight the group name and choose Edit: Edit Smart Group.)

Sharing Address Books

Here are two chronic challenges for husband-wife or small-business teams: first, how do you maintain your own independent address books without wasting effort on all the people you know in common? Second, how do you make a basic phone list available to both of you or to the whole company?

Easy: publish your address book via a .Mac account, if you have one. Other people can then subscribe to your address book, which will show up in their own Address Book programs as a separate entity.

To publish your list, choose Address Book: Preferences. Click on Sharing, and turn on Share Your Address Book. Now specify who's allowed to see your list by clicking on the plus sign (+). Your address list opens, allowing you to 1-click on the chosen few; click on OK. Turn on Allow Editing next to someone's name if you have that much trust in him or her.

Now suppose you're the spouse or coworker who wants access to the published list. In your copy of Address Book, choose File: Subscribe To Address Book, and type in the .Mac address of whoever did the publishing.

Once you have the idea, it's easy to set up a matrix of people publishing to people, which can be a good way to harness everyone's contacts in these times of social-network mobilizing.

DAVID POGUE (www.davidpogue.com) is the weekly tech columnist for the *New York Times* and the author of *Mac OS X: The Missing Manual, Tiger Edition* (O'Reilly, 2005).

continues

Maintain a Healthy Mac

SIMPLE WAYS TO AVOID THE MOST COMMON MAC PROBLEMS **BY ROB GRIFFITHS**

Mac OS X tends to be more stable than some other operating systems I could name, but it's not indestructible. Properly maintaining your Mac can ward off disasters that'll leave your comfortable digital environment in ruins.

Mac maintenance is easy—there's even software that does most of the work for you. Performed regularly, these four simple tasks will avert most problems and keep your technological house in order.

Verify Preferences

If your e-mail program quits while loading, your Web browser forgets your settings, or Address Book loses its categories, you may have an application with a corrupted preferences file. You could simply delete the corrupted file, but then you'll also lose all your custom preferences, which you must restore by hand. (For more on how to recover from application crashes, see "When Disaster Strikes" on page 64.)

OS X uses .plist files to store application- and system-related preference information. These are binary files saved in the XML format, which follows a set layout. So it's easy to determine whether you have a problematic file: if it doesn't adhere to the XML layout, it's corrupted. Verifying your preferences should be your first course of action anytime you notice unexpected behavior, such as crashes or menu corruption.

There are two ways to check XML preference files in Tiger.

With Terminal One way is with the Unix utility known as plutil. Open Terminal (/Applications/Utilities) and type `sudo plutil -s ~/Library/Preferences/*.plist`.

Then press enter and provide your password when asked. In the preceding code, `-s` tells plutil to suppress output of a successful test, so if you see output, you'll know it's from an error. You need to use sudo for file access because the system owns some preference files, such as those from Micromat's TechTool, even though they reside in the Preferences folder in your user folder.

You can check the top-level system preferences by repeating this command, substituting `/Library/Preferences` as the file location.

To simplify using the plutil utility in the future, select File: Save As, give the file a name (such as Check My Permissions), and pick a location. In the When Opening This File section, select Execute Command In A Shell, click on the Execute This Command (Specify Complete Path) button, and enter either of the commands. Click on Save, and you've got a clickable file. In the future, simply double-click on the file, enter your password when prompted, and press return.

With Preferential Treatment If you're not fond of Terminal, try Jonathan Nathan's free Preferential Treatment application (find.macworld.com/0644). It lets you check user- and system-level preferences by clicking on a couple of buttons. The program is a bit slower

Tip Prior versions of OS X kept .plist files as text, making them easy to view. For speed reasons, Apple has converted them to binary format in OS X 10.4. But it's relatively easy to move them back into the old text format. In Terminal, just type the following:

```
sudo plutil -convert xml1 /path/to/preference/file
```

You can then use `pico` or `vi` or even TextEdit to look at or modify the file. When you're done, convert the file back to binary by typing the following:

```
sudo plutil -convert binary1 /path/to/preference/file
```

Who's in Charge Here? Permissions are complicated. On the left is the user's Home folder—the user can read from and write to this directory without restriction. In the center is the Applications folder, which the user and admin-level user can read from and write to—but notice that the user doesn't own this folder. On the right is the OS X System folder, to which not even the admin user has write privileges.

than Terminal, but it's much easier to use and its results are easier to read. Preferential Treatment lets you opt to open, move, or trash any corrupted files it finds.

An application may create a file that fails Apple's test but is not corrupt. If you see a file or two listed for applications that seem to work just fine, you can safely ignore the warnings. If you find a truly corrupted preference file (and you don't have a corruption-free backup), quit the application, trash the file, and start over with the application settings.

Repair Permissions

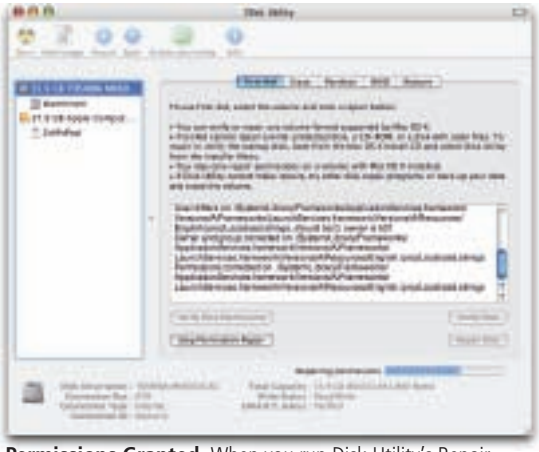
Say your word processor can't save the file you've been working on for an hour, your e-mail program won't let you change its preferences, or you can't even launch an application. These are all symptoms of permissions gone bad.

OS X uses file permissions to determine which users are allowed to access files. Different programs in different locations on your hard drive have different permissions (see "Who's in Charge Here?").

Although this system works well most of the time, default permissions can become corrupt. If permissions are mistakenly modified, you may not be able to access folders or programs. This happens most often after you install software that includes system-level components, or when you update the OS.

To repair broken permissions, launch Disk Utility (/Applications/Utilities), click on your startup disk, and then click on the Repair Disk Permissions button. (Don't bother running Verify Disk Permissions—it takes just as long as Repair Disk Permissions, and if it tells you that it found errors, you'll then want to run the latter anyway.) This process can take as long as 15 minutes; while it's working, you'll see messages about items it has corrected (see "Permissions Granted"). When it's done, it will have resolved any permissions issues that affect system-level files and folders on your machine.

Repair Disk Permissions uses internal data as well as data in the top-level /Library/Receipts folder, which keeps track of software you've installed. Never delete anything from this folder.



Permissions Granted When you run Disk Utility's Repair Permissions feature, you'll see messages explaining which files and folders had incorrectly set values.

Your permissions-repair schedule should depend on how often you run installers. The more often you run installers, the more often you should run Repair Permissions. I recommend that you run it weekly if you download and install a few programs a week.

Delete Cache Files

A cache is a place to store something temporarily so the OS or a program can retrieve it in a hurry. G4 and G5 processors have caches that help them handle instructions more quickly. OS X uses disk-based caches that hold copies of graphics, frequently performed calculations, and the contents of dynamic menus. Caches reduce application launch times, speed the display of screen data, and make Web sites load faster. If cache files become corrupted or simply too large to function well, you may experience odd issues with an application—such as preferences that won't load or menus that contain strange characters—or the system may become sluggish.

You'll find OS X's cache files in the /System /Library/Caches folder, in multiple cache folders in the System folder, in the */your user folder*/Library folder, and in folders within individual application folders. The easiest way to remove most of them is to use a utility such as Kristofer Szymanski's Cocktail ($15; www.macosxcocktail.com). However, these tools generally don't affect application-specific caches (with the exception of Safari); you'll have to wrangle such files yourself.

Regularly deleting your cache files is a good idea. Removing cache files once or twice a month works well for most people, but if your Mac is always on and working, you may want to remove cache files once a week to prevent corruption. And if you're seeing slowdowns or other unexplained behaviors, there's no harm in trying to rout the bad behavior by deleting the cache files.

Monitor Hard Drives

The hard drive or drives inside your Mac are critically important—if they fail, the Mac won't boot, and you could lose all your files. While there's nothing

Stay on Schedule

To keep your Mac in tip-top shape, create a maintenance schedule and stick to it. Set up a repeating event in iCal or Outlook. When the reminder pops up, take a break for routine maintenance.

DAILY	
Check SMART indicators	You can use third-party software to automate the task.
MONTHLY	
Delete cache files	Once or twice a month is sufficient for most people. If you always keep your Mac running, increase it to once a week.
AS NEEDED	
Verify preferences	Do this when you notice unexpected application behavior or crashes.
Repair permissions	Do this when you update the OS or after you install new applications and shareware.

Tip Although software warns you of impending hardware failures, it won't help you with the primary cause of poor hard-drive performance: full disks. Keep at least 10 percent of your boot drive free. To see how much space you have available, highlight the boot drive in the Finder and press 1-I (Get Info).

you can do to maintain your drives physically, you can sniff out disk weaknesses before they have a catastrophic effect.

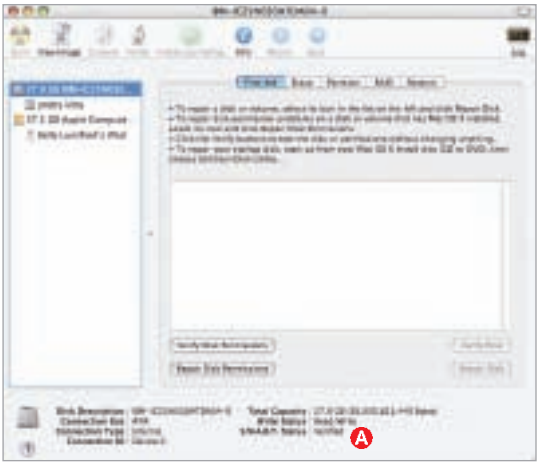
The SMART (Self-Monitoring Analysis and Reporting Technology) hard drives in newer Macs attempt to diagnose their own health on a regular basis, and they note any problems they find—so you have time to update backups and look for replacement drives.

There are two ways to check the status of your Mac's SMART indicators. If you're using the machine locally, launch Disk Utility and click on the top-level indicator for your drive in the left column. In the bottom of the window, you'll see the words *SMART status*; next to that, the word *verified* (see "How SMART Am I?"). If you don't see the SMART indicator, your Mac doesn't have the technology. If you see it but it's not verified, you should update your backup and replace that drive—it will likely experience a failure soon.

If you prefer to use Terminal, or if you connect remotely to Macs—for instance, you have a Mac in your home that you're using as a server—you can also check the status of the drives from Terminal. For a Mac with only one hard drive, open Terminal and type `diskutil info disk0 | grep SMART`.

For a Mac with more than one hard drive, type `diskutil list` to see the number assigned to each drive, and then repeat the first command with the proper number.

You should check SMART indicators daily. However, doing this manually gets old fast. If you're comfortable with the command line, you can add a new cron task that executes this command on a regular basis and writes the output to a text file; you can also create an AppleScript that displays a dialog box, and then set the AppleScript to run at login each day. Or you could use a third-party application, such as Alsoft's DiskWarrior ($80; www.alsoft.com), Micromat's TechTool Pro 4 ($98; www.micromat.com), or Julian Mayer's SMARTReporter (free; http://homepage.mac.com/julianmayer/), to inspect the drives and alert you if there's an error (see "Construct a Maintenance Toolbox").



How SMART Am I? Disk Utility checks a Mac's SMART indicators. The text at the bottom right (A) indicates that this drive is in good health, with no signs of impending failure.

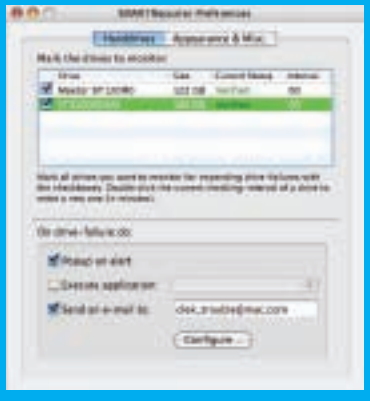
Construct a Maintenance Toolbox

Maintaining your Mac doesn't have to be a burden. There's no shortage of software that can handle it with ease, and some programs even throw in additional system-tweaking features. While plenty of utilities will do the job, I recommend that Mac users keep these three on hand:

Cocktail Kristofer Szymanski's Cocktail is the current maintenance tool of choice for Tiger. It handles just about everything you would want to do, from changing the system's maintenance-script run times, to repairing permissions, to emptying caches—even modifying certain aspects of the Dock, Finder, Exposé, and more. You can do all of this with ease using Cocktail, and the developer has tested the Tiger Edition for use with OS X 10.4.

SMARTReporter Julian Mayer's SMARTReporter checks SMART status indicators. While many programs (including Apple's Disk Utility) can do this, I prefer SMARTReporter for its reporting capabilities. With its intuitive interface, you'll have your drives set up for regular monitoring in no time (see "Get SMART"). You specify the testing interval and the actions to take if a test fails. You can even control SMARTReporter's appearance in your menu bar—it can show up as a solid green or red disk icon, or as a small green or red dot that indicates the status of the most recent test.

DiskWarrior When your hard drive appears to be dead, you may be able to revive it with a drive-repair utility. DiskWarrior's ability to resuscitate drives is unmatched. DiskWarrior can't save you from hardware failures that render the drive unusable, but for nearly everything else, it's an invaluable data-saving tool.



Get SMART Using SMARTReporter, you can receive word via e-mail, an application, or pop-up alert if a drive's SMART status indicator shows a potential problem.

An Ounce of Prevention

You've always known that Macs are superior, and this superiority extends to ease of maintenance. With some very simple housework—regularly checking a few things such as permissions, cache files, and your drive's SMART status—you can prevent your Mac from falling into disrepair.

Senior Editor ROB GRIFFITHS is the author of *Mac OS X Power Hound, Panther Edition* (O'Reilly, 2004) and runs the Mac OS X Hints Web site (www.macosxhints.com).

When Disaster Strikes

GET BACK ON YOUR FEET WITH TIGER'S NEW TROUBLESHOOTING TOOLS **BY TED LANDAU**

Even with regular maintenance, good Macs can have bad days. With OS X 10.4, Apple has delivered some great new tools for tracking down and eliminating problems such as crashes and broken connections, so you can get up and running again quickly.

Crashing Applications

Like Panther, Tiger presents you with the Quit Unexpectedly dialog box when an application crashes. But now that dialog box offers you more options for dealing with the problem.

Click on the Reopen button and Tiger instantly restarts the crashed application. If the application crashes a second time, a Try Again button replaces the Reopen button (see "Try, Try Again"). When you click on this button, Tiger reopens the application, but with a twist: it performs a Safe Launch.

This special mode prevents the application from accessing its preferences file, which stores any settings you specify via the application's Preferences menu, as well as hidden settings specified by the program itself. Preferences files usually live in the /Library/Preferences folder of your home directory, and end in *.plist*. Corrupted preferences files are a common cause of application crashes. By bypassing the program's preferences file, Tiger prevents any crashes it might cause.

If the Safe Launch is successful, you'll have one more decision to make. When you quit the application, Tiger will ask whether you want to preserve the new settings. Click on No and the program will revert back to the original preferences file the next time it launches. However, if that preferences file was the source of your crash, the crash will return as well.

Try, Try Again Click on the Try Again button to restart a crashed application using Safe Launch. This lets you bypass the application's preferences file.

Tip Having an extra user account that you access only in times of trouble is a great way to narrow down the source of crashes and other irregularities. If the problem goes away when you switch users, the culprit is probably a file in your user's Library folder (such as a preferences or cache file). When setting up the fresh account (in your Accounts Preferences), be sure to click on Login Options and enable the Fast User Switching option. This will let you switch to the troubleshooting account without logging out of your own.

In most cases, you'll want to click on Yes. When you do, Tiger renames the original (presumably corrupt) preferences file by adding a *.saved* extension to its name. For example, TextEdit's old preferences file would now be called com.apple.TextEdit .plist.saved. The application ignores the old file on future launches. This also means you'll have to re-create any customized changes from the old preferences file. Later, if you decide to revert to the original .plist file—should you decide it was not the source of your trouble—simply remove the newly created preferences file and delete the *.saved* suffix from the old one.

Tiger's Unexpectedly Quit dialog box also gives you the option of reporting the crash's details directly to Apple. Unfortunately, if you decide to send a report to Apple, you cannot initiate a Safe Launch at the same time.

If OS X itself crashes, you get a *kernel panic* and you'll see a message asking you to restart your computer. After doing so, you'll get a new option—a button you can click on to report the kernel panic to Apple. However, at least as of OS X 10.4.1, the button does not appear to work.

Crashing at Startup

If your Mac is crashing at startup, restart your computer and hold down the shift key immediately after you hear the startup chime. This initiates a Safe Boot, a special startup protocol that disables many of the files that can cause crashes. With a Safe Boot, the login window will appear even if you have previously selected to log in automatically, and the words "Safe Boot" will appear at the top of the window, below the Mac logo.

During a Safe Boot, Tiger attempts to perform disk repairs, in a process similar to Disk Utility's First Aid. This alone may solve your problem.

A Safe Boot also temporarily disables a number of files that load at startup. These include most kernel extensions (stored in the /System/Library/Extensions folder), third-party startup items (in the /Library/StartupItems folder), all fonts except those in the /System/Library/Fonts folder, and all login items for your account (enabled in the Login Items pane of the Accounts preference pane).

A Safe Boot also moves a variety of font cache files (located in /Library/Caches/com.apple.ATS) to the Trash. OS X will create new default versions of these cache files as needed.

If any of these files is the cause of the crash, the computer will now start successfully, giving you the chance to locate and remove the troublemaker. Unfortunately, tracking it down will require some trial and error. You will need to remove files systematically, and then test to see if you can now restart successfully. If so, you know that the file (or files) you removed was the cause. I recommend starting with files that appear to have been added around the time the problem started and files that come from third parties, as these are the more likely culprits.

Missing Internet Connection

Tiger also introduces a new feature to assist in troubleshooting network problems. If the system detects a connection failure (for example, if you try to open a Web page in Safari when you're not connected to the Internet), it pops up a message that includes a Network Diagnostics button. Clicking on this launches the Network Diagnostics utility (stored in /System/Library/CoreServices). This utility walks through a series of steps to determine the source of the problem and fix it. For example, after I turned off my AirPort connection, Network Diagnostics correctly figured out that AirPort caused the Internet failure, and had everything working again in no time (see "Favorable Prognosis").

The new version of Mail offers similar assistance for problems specific to your Mail accounts. To use it, select Connection Doctor from Mail's Window menu. Mail will proceed to test each of your accounts. If it is unable to log in to an account, Mail will tell you so and offer brief advice on how to fix the problem. If Mail determines that you have no Internet connection at all, it offers an Assist Me button, which opens the Network Diagnostics utility.

The Common Thread

With its new troubleshooting tools, Tiger automates and simplifies tasks that required more effort and skill in Panther. The result is an operating system that lets you focus on your work rather than on tracking down system problems.

Contributing Editor TED LANDAU writes columns for MacFixIt (www.macfixit.com) and the Mac Observer (www.macobserver.com). He's also the author of *Mac OS X Help Line: Tiger Edition* (Peachpit Press, 2005).

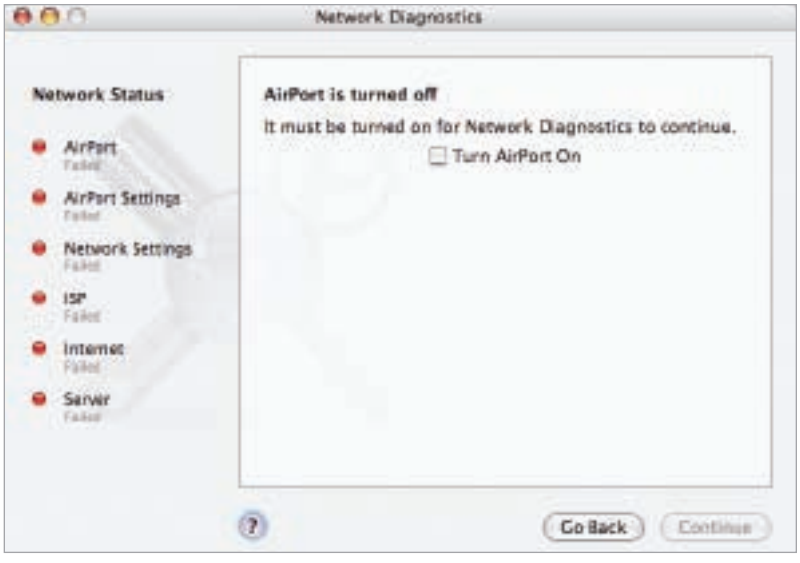
Advanced Hard-Drive Repair

Despite your best efforts, you might power up your machine one day and see the dreaded blinking question mark.

Your first step should be to boot from the OS X installation CDs. Then select Open Disk Utility from the Installer menu. If your boot drive shows up in the left drive list, select it and click on Repair Disk—then sit back and cross your fingers. If Disk Utility is able to repair the disk, restart the computer and hope the drive works as usual. Then back up important files and consider investing in a new drive.

In the event that Disk Utility can't repair the drive, it's time to turn to Alsoft's DiskWarrior 3.0.3 or Micromat's TechTool Pro 4.0.4. DiskWarrior's patented directory-rebuilding feature has returned seemingly dead drives to the land of the living. The program then lets you mount this directory as a new hard drive, so you can check it for errors and even copy files from it. If everything looks good, DiskWarrior then writes the new directory onto your drive. TechTool Pro also recovers data from dead drives, but uses a different mechanism. In addition, it can monitor and test other aspects of your system, such as CPU, memory, and power supply. Both are capable tools.

If you can't make the drive work after using either of these programs, it has probably suffered a physical failure of some sort. If you're willing to dole out serious dough for your lost information, companies like DriveSavers Data Recovery (www.drivesavers.com) can often recover data from even severely damaged drives.—ROB GRIFFITHS



Favorable Prognosis Here, Tiger's new Network Diagnostics utility discovers the cause of lost Internet access and explains how to fix it.